Mood Enhancement as a Legitimate Goal of Medicine: Rethinking the Treatment-Enhancement Dichotomy in the Context of Human Wellbeing

by

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Declaration

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Abstract

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Human enhancement sparks intense debate and raises interesting moral questions, including the ethical implications for the medical profession as the potential gatekeeper of these technologies. Mood enhancement, as a subclass of human enhancement, raises particularly interesting moral questions regarding the relationship between neuroscience, technology and concepts of human identity, authenticity and the good life. The discussion surrounding these technologies has unfortunately been hampered by poorly articulated and convoluted notions of enhancement. It is typically assumed that enhancement is practically and normatively different from medical treatment. This distinction is based on a normative understanding of normal (species-typical) functioning. Consequently, enhancement is often considered prima facie morally suspect. This dissertation subjects the aforementioned distinction to critique by illustrating that treatment and enhancement occur along a continuum of interventions, which are all ultimately aimed at improving human wellbeing. The concept of normal functioning is critically examined in order to show that it lacks practical significance and normative force. With reference to a welfarist framework, it is argued that the moral evaluation of mood enhancement should turn on the extent to which it tends to increase the recipient's chances of leading a good life, regardless of the presence or absence of pathology. Having concluded that the distinction between treatment and enhancement is not of central factual or moral importance, medicine's relationship vis-à-vis enhancement is considered. Medicine is traditionally understood to have an internal and fixed telos. Physicians traditionally concerned themselves with improvements in health and the cure or prevention of disease to the exclusion of other aspects of their patients' lives, such as the promotion of happiness or the relief of existential anxieties. However, the scope of the legitimate ends of medicine depends on one's understanding of the concepts of health and disease. In this regard, an argument is made in support of a normative (subjective) understanding of health in terms whereof health is understood to be conceptually related to happiness and quality of life, and is considered instrumentally valuable insofar as it improves quality of life. Based on this characterization of health, mood enhancement is reconcilable with the traditional ends of medicine, including the traditional goal of health promotion. Even if mood enhancement is incompatible with the traditional ends of medicine (an argument which is rejected), these ends are not static or

ontologically internal to the practice of medicine. Instead, the ends of medicine are intimately connected to the ends of living and social functioning, and cannot be defined independently of society's interpretation thereof. Although mood enhancement is not unethical per se, there may be good reasons for limiting physicians' involvement in specific circumstances. It is submitted that the principles of biomedical ethics – autonomy, beneficence, non-maleficence and justice – should guide physician involvement on a case-by-case basis. After considering mood enhancement in the context of a principlist framework, it is concluded that these technologies are prima facie ethically acceptable. However, in order to manage potential bioethical risks, a context-sensitive approach is recommended where each request for mood enhancement is evaluated on its own merits.

OPSOMMING

Verbetering van die Gemoed as 'n Geldige Doel van Geneeskunde: 'n Heroorweging van die Digotomie van Behandeling-Verbetering binne die Konteks van Menslike Welstand

Menslike verbetering het 'n vurige debat ontvlam en opper interessante morele vrae, onder andere wat die etiese implikasies vir medici, as potensiële hekwagters van hierdie tegnologie, inhou. Vebetering van die gemoed, in die besonder, opper unieke morele vraagstukke rakende die verwantskap tussen neurowetenskap, tegnologie, konsepte van menslike identiteit, egtheid en menslike welstand. Die debat oor verbetering word gekenmerk deur swak geformuleerde en komplekse idees daaroor. Laasgenoemde belemmer ongelukkig ook die gesprek oor gemoedsverbetering. Die aanname bestaan dat verbetering prakties en normatief van mediese behandeling verskil. Hierdie onderskeid word baseer op 'n normatiewe begrip van wat dit beteken om normaal (tipies van die spesie) te funksioneer. Verbetering word derhalwe prima facie moreel verdag geag. Die doel van hierdie verhandeling is om die voorgenoemde onderskeid aan kritiek te onderwerp deur aan te toon dat behandeling en verbetering op 'n kontinuum van ingrepe lê wat almal daarop gemik is om menslike welstand te verbeter. 'n Kritiese ondersoek van die konsep normale funksionering word gedoen ten einde te bewys dat dit tekort skiet aan praktiese betekenisvolheid en gestroop is van normatiewe gewigtigheid. Met verwysing na die eties-filosofiese raamwerk van welvarendheid, word daar geredeneer dat die effek op menslike welstand deurslaggewend behoort te wees in die morele evaluasie van gemoedsverbetering. Die gevolgtrekking word gemaak dat die onderskeid tussen behandeling en verbetering derhalwe feitelik en moreel onbenullig is. Hierna word oorweging geskenk aan die verhouding tussen die geneeskunde en verbetering. Volgens tradisie is die telos van die geneeskunde intern en vasgestel. Geneeskundiges het hulself hoofsaaklik met die voorkoming of genesing van siektes en die verbetering van gesondheid bemoei, terwyl ander aspekte van pasiënte se lewens, soos om geluk te bevorder of eksistensiële angs te verlig, agterweë gebly het. Die omvang van 'n geldige geneeskundige doel is egter afhanklik van die omskrywing van gesondheid en ongesteldheid. 'n Argument ter ondersteuning van 'n normatiewe (subjektiewe) begrip van gesondheid word in hierdie verband gevoer. In terme hiervan is gesondheid, lewensgeluk en lewenskwalitiet konseptueel onderling verwant en word gesondheid as waardevol beskou in soverre dit instrumenteel is in die verbetering van lewenskwaliteit. In die lig van hierdie beskouing is gemoedsverbetering versoenbaar met die tradisionele doelwitte van geneeskunde, insluitend die bevordering van gesondheid. Selfs al sou gemoedsverbetering

onversoenbaar wees met hierdie tradisionele doelwitte (‘n argument wat verwerp word), is hierdie doelwitte nie stagnant of ontologies inherent aan die geneeskunde nie. Inteendeel, geneeskundige doelwitte is nou verwant aan die van lewe en sosiale funksionering, en kan nie onafhanklik van ‘n gemeenskaplike interpretasie daarvan gedefinieer word nie. Alhoewel gemoedsverbetering nie per se oneties is nie, mag daar redes wees waarom geneeshere se betrokkenheid onder sekere omstandighede beperk behoort te word. ‘n Riglyn vir hierdie betrokkenheid behoort op die beginsels van biomediese etiek – outonomie, voordeel, nie-kwaadwilligheid en geregtigheid, geskoei te word. Na oorweging van gemoedsverbetering binne die raamwerk van prinsiplisme, word die gevolgtrekking gemaak dat dit prima facie eties aanvaarbaar is. Om potensiële etiese risiko’s egter te bestuur, word ‘n konteks-sensitiewe benadering, waar elke individuele versoek om verbetering op eie meriete beoordeel word, aanbeveel.

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Chapter 1
Problem Statement and Objectives

1.1 Introduction

Human beings have since time immemorial been interested in bettering themselves – people pursue education, read books to expand their knowledge, exercise and diet to change the shape of their bodies, take vitamins, colour their hair, and some even take more extreme measures such as having cosmetic surgery to change their physical appearance. In many ways, the contemporary human body, not unlike "a car, a refrigerator, a house, which can be continuously upgraded and modified in accordance with new interests and greater resources", has become a primary symbol of identity, rather than a dysfunctional object requiring medical intervention (Finkelstein 1991, 81). Biotechnology is playing an increasing role in these self-improvement projects (De Grazia 2015a). The term "biotechnology" refers to technologies aimed at manipulating living things, including human beings, usually for the common good (Mitchell, Pellegrino, Elshtain, Kilner and Rae 2007). Biotechnology has developed at a rapid pace over the course of the last five decades and an ever-increasing variety of medical technologies for the improvement of human health is now available. Although these technologies are developed for therapeutic purposes, their uses are not restricted to such ends and they are increasingly being used for purposes that seemingly deviate from the traditional ends of medicine. Technology traditionally aimed at therapeutic ends is also capable of being used to enhance human function and properties in healthy individuals and to make them "better than well" (Kass 2003, 14).

A fascinating instance of enhancement is the phenomenon of mood enhancement. The debate surrounding mood enhancement forms a part of the more general human enhancement debate but is unique to the extent that it raises questions regarding the relationship between neuroscience, technology and concepts of human identity, authenticity and the good life (Schermer 2015). The concept of mood enhancement is not entirely new. The quest to improve affective functioning has a long history and traditional methods include practices such as the consumption of certain herbs and alcohol, the use of recreational drugs, meditation, physical exercise and psychotherapy (Ravelingien, Braeckman, Crevits, De Ridder and Mortier 2009). The relatively new and more controversial forms of mood enhancement are nonetheless distinguishable from these traditional methods due to their proximity to neurological levels of

functioning and the fact that they are more likely to have direct, immediate and long-term effects on the human brain (Ravelingien et al. 2009).

Mood enhancement is typically understood to entail the use of medical means to improve psychic wellbeing beyond a normal state (Bjorklund 2005). Hansen (2015, 9) describes mood enhancement as "the off-label use of psychiatric medications for non-health-related improvements of cognition or temperament, wherein improvements are measured by greater professional competitiveness and/or greater social approval." Similarly, Kramer (1994) describes mood enhancement as enhancing a normal, but unrewarded, psychic state to another normal, but more socially desirable and better rewarded state. Mood enhancement is an umbrella-term that refers to interventions aimed at improving mood, feelings and emotions (Beck and Stroop 2015). Kahane (2011, 167) distinguishes between these affective states as follows:

> Feelings are episodes of consciousness. There is something it feels like to feel angry or sad. Emotions are broader behavioral dispositions which include dispositions to have certain feelings, as well as dispositions to behave, think, and attend in certain ways. Importantly, although to be angry at someone is, among other things, to be disposed to feel angry at the person, one can be angry even when one isn't literally feeling angry. Moods are even broader dispositions, dispositions that govern one's entire emotional orientation for a certain period. To be bored or elated is not to have some particular emotion but to have a general orientation to things that shapes one's various more specific emotions.

In addition to interventions aimed at improving affective states, much of the mood enhancement debate revolves around the enhancement of certain desirable personality traits such as being upbeat, spontaneous, outgoing and self-confident (Schermer 2015). Personality traits are generally considered to be enduring qualities that are unique to an individual and that remain relatively constant over time, whereas affective states change more often (Kheriaty and Greeks 2006). For example, mood enhancement includes the use of selective serotonin reuptake inhibitors in patients who do not suffer from clinical depression but who are merely shy, withdrawn, joyless, compulsive, have a low self-esteem, experience existential angst or feel empty and confused (Elliott 1998).

Mood enhancement is often discussed in the context of so-called "cosmetic psychopharmacology", a term coined in the early 1990s by Peter Kramer, psychiatrist and author of the now infamous book *Listening to Prozac*. Kramer (1994) reported on the mood-improving effects that Prozac, a selective serotonin reuptake inhibitor which increases the amount of the neurotransmitter serotonin in some parts of the brain, had on some of his healthy patients. The term "cosmetic psychopharmacology" is thus generally understood to refer to the use of psychopharmaceuticals for purposes of effecting changes in function in healthy patients or those who present with subclinical conditions (Bjorklund 2005). Although a number of selective serotonin reuptake inhibitors have been developed and approved for use in the treatment of mental disorders, these drugs are also currently, and progressively so, being prescribed to patients with normal brain function, or patients who do not present with mental illnesses, or whose symptoms are either not documented or severe enough to qualify as a disorder in terms of current diagnostic criteria (Berghmans, ter Meulen, Malizia and Vos 2011; Cooper 1994). Instead, people are taking psychopharmaceuticals to fine-tune their personalities and increase normal levels of psychic wellbeing (Cooper 1994). Cooper (1994, 721) notes:

> Officially, Prozac has been approved only for treating two serious mental diseases: clinical depression and obsessive-compulsive disorder. But millions of people in the U.S. are turning to the distinctive green-and-white capsules just to pull themselves out of the dumps. They've helped make Prozac one of the world's most widely prescribed medications. Prozac's extensive use has sparked an intense debate over the use of psychoactive drugs vs. talk therapy to treat mental illness, and raised questions about whether such drugs are tempting essentially healthy people to use 'cosmetic psychopharmacology' to fine-tune their personalities.

Although the off-label use of psychopharmaceuticals is the most common form of currently available mood enhancement, technological advances in areas such as physics and neurochemistry have led to the development of alternative methods for altering brain function and, as such, potential forms of mood enhancement (Berghmans et al. 2011). Technologies such as transcranial magnetic stimulation, vagus nerve stimulation and deep-brain stimulation have already been used to improve mood in patients who suffer from treatment-resistant neuropsychiatric illnesses (Berghmans et al. 2011). Similarly, early experiments have been performed in transcranial direct current stimulation, where weak electrical currents are used to modify the firing rates of neurons, and which showed some promise as a mood enhancing tool in healthy people (Ravelingien et al. 2009). It is also possible that scientists may in due course

be able to improve affective functioning with the use of neurotrophic gene therapies (Ravelingien et al. 2009). By virtue of technological development in the area of brain imaging and biochips, more specific neuromodulators that are able to target specific neurological receptors may also become increasingly common, which may lead to the development of increasingly effective and safe psychopharmaceuticals and potential mood enhancers (Berghmans et al. 2011; Juth 2011). These so-called "neuroceuticals" will differ from currently available psychopharmaceuticals in that they will be capable of targeting various sub-receptors in specific neural circuits, thus creating the possibility for dynamic intracellular regulation of an individual's neurochemistry for both treatment and enhancement purposes (Berghmans et al. 2011; Liao and Roache 2011). Finally, it is not unlikely that all of the aforementioned techniques will eventually be used in combination to achieve optimal outcomes, similar to the manner in which certain medications are already being used in combination with neuromodulation techniques (including transcranial direct current stimulation and stimulation via implanted electrodes) to achieve maximum neuromodulation effects (Ravelingien et al. 2009).

1.2 Problem Statement and Objectives

Enhancement technologies have sparked intense debate and raise interesting moral questions, including the ethical implications of such technologies for society and the medical profession as the potential gatekeeper of these technologies. Many people instinctively feel that enhancements are irreconcilable with their moral intuitions, although they are not always able to coherently articulate the reasons for their moral unease (Hall 2012). The focus of this dissertation will be the ethical status of human enhancement with specific reference to the phenomenon of mood enhancement, and the relationship between enhancement technologies and the medical profession.

As mood enhancement forms part of the larger enhancement debate, it has unfortunately also been hampered by the poorly articulated and convoluted notions of enhancement that characterise the general enhancement debate. The debate is typically focused on the particular application of a technology whilst a definition of enhancement is merely implicitly assumed and not explicitly communicated (Earp, Sandberg, Kahane and Savulescu 2014; Savulescu, Sandberg and Kahane 2011). It is typically assumed that enhancements are practically and normatively different from medical treatments, and the former is then automatically considered

prima facie morally suspect (Kass 2003). The treatment-enhancement distinction has become the preponderant mode of defining enhancement in the bioethical literature, often in an uncritical manner. In this regard, the mainstream understanding of enhancement is discussed in Chapter 2, with particular focus on the ubiquitous treatment-enhancement distinction. The strict distinction between treatment and enhancement is based upon a normative understanding of normal (species-typical) function. One of the research objectives of this dissertation will be to subject this position to critique by illustrating that treatments and enhancements occur along a continuum of interventions, which are all ultimately aimed at improving human wellbeing. Furthermore, by examining the concept of normal functioning, it is argued that it lacks practical significance and normative force. An argument is then proffered that enhancement is best understood in terms of a welfarist approach, which defines enhancements as interventions aimed at improving human wellbeing. In terms of this approach, medical treatment is a subclass of enhancement in general.

Even if one accepts that enhancement technologies are generally morally acceptable, the question whether physicians should offer these technologies to their patients remains unanswered. Arguments against the involvement of medicine in enhancement practices are usually predicated on conceptions of the ends of medicine and the idea that medicine has an internal morality, end or telos (Miller and Brody 2001). It is often argued that medicine should concern itself with the restoration of function and that it is not the proper role of medicine to increase human wellbeing and happiness (Allert, Blasszauer, Boyd and Callahan 1996a). A further research objective of this dissertation will be to show that enhancement is not necessarily incompatible with the traditional ends of medicine, or alternatively that the ends of medicine are capable of being developed to include certain enhancement practices. The subject of medicine's relationship vis-à-vis enhancement is discussed in Chapter 3. In order to answer the question whether physicians should be ethically permitted to provide mood and other forms of enhancement, the ends of medicine need to be specified. This, in turn, requires an understanding of the concept of health, which is traditionally regarded as the most central concept to medicine (Allert et al. 1996a). These concepts are unpacked in Chapter 3, where it is shown that enhancement is compatible with the traditional ends of medicine, specifically the promotion of human health, if one understands health as the promotion of human wellbeing and enabling patients to pursue their idea of a good life. The idea of an internal and fixed morality to medicine is also unpacked in Chapter 3. In this regard, an inherentist position is compared to a social constructionist view and an argument is made in support of the latter. On

this basis, it is concluded that even if enhancement is irreconcilable with the traditional ends of medicine, the ends of medicine are not static and there is no obvious reason these ends should not be developed to include mood and other forms of human enhancement.

However, it does not necessarily follow that physicians should enjoy total discretion in engaging in enhancement practices. There may be legitimate reasons why certain forms of enhancement, including mood enhancement, may be unethical from a professional point of view. From here, a further research objective arises, which is to identify the potential bioethical pitfalls related to mood enhancement. These pitfalls are explored within the context of the individual physician-patient relationship, as requests for mood enhancement typically arise within the context of the privileged and individualised clinical encounter. It is submitted that although physicians should be permitted to engage in enhancement practices, the principles of biomedical ethics may constrain the exercise of this discretion in specific circumstances. In Chapter 4, the concept of mood enhancement is accordingly explored within a principlist framework. It is argued that when deciding whether or not to prescribe a mood enhancer, physicians have a duty to ensure that the intervention benefits the patient (beneficence), does not harm the patient (non-maleficence), and is reconcilable with the patient's preferences and self-determination (respect for autonomy) (Synofzik 2009). The principle of justice, which requires fair distribution of resources, will play a lesser role in the context of the individual physician-patient relationship. It is concluded that mood enhancement is not inherently irreconcilable with any principles of biomedical ethics, but that a context-sensitive approach must be adopted and that each request for mood enhancement must be evaluated on its own merits and on a case-by-case basis.

Chapter 2

The Concept of Enhancement

2.1 Introduction

When embarking on a discussion regarding the merits and demerits of enhancement, it would be ideal to have a working understanding of what is meant by the term. However, Bess (2010, 641) notes that "unfortunately, this word turns out to be one of those slippery customers, like 'obscenity', 'love', or 'freedom,' that stubbornly resists being pinned down, because it conveys a wide range of meanings to different people under varying circumstances". Some even argue that the term must be done away with altogether, as it is simply too vague and vulnerable to abuse (Parens 1998). Earp et al. (2014, 5) note how "the 'enhancement debates' in biomedical ethics have been needlessly encumbered by the existence of a hodge-podge of ill-defined, poorly articulated notions of enhancement – often only implicitly communicated – along with endless to-ing and fro-ing about the relationship between enhancement and the limits of medicine". In this regard, there are two distinct schools of thought – those who regard therapy as a special instance or subclass of enhancement, on the one hand, and those who regard enhancement as beyond the medical realm, on the other hand (Coenen, Schuijff and Smits 2011). Proponents of enhancement generally endorse the former approach and regard enhancement as "the expression of an innate human striving for self-improvement and as being related to fundamental tenets of civilization, such as religion, education, medicine, and the creation of tools" (Coenen et al. 2011, 523). The latter approach is often referred to as the "not-medicine" approach and is typically based on normative assumptions regarding concepts such as normal functioning and the limits of medicine (Coenen et al. 2011). Proponents of the not-medicine approach denounce enhancement for both normative and practical reasons (Coenen et al. 2011).

In this chapter, it will be argued that the differences between enhancement and treatment are not always obviously discernible and, furthermore, that these differences are often ethically irrelevant. In particular, the strict dichotomy between the two concepts often leads to irrational and unfair results. It will be argued that enhancement should instead be understood in terms of human wellbeing, specifically in terms of a welfarist approach as espoused by Savulescu et al. (2011).

2.2 Treatment-Enhancement Distinction or the Not-Medicine Approach

In terms of the treatment-enhancement distinction or the not-medicine approach, enhancement is defined in opposition to medical treatment. The strict distinction is closely related to the concept of medical necessity (Daniels 2000). It is argued that whereas treatments address an underlying diagnosable pathology, enhancements improve human traits or functions beyond what is required to maintain or restore health (Juengst 1998). Kass (2003, 13), in the influential President's Council on Bioethics report *Beyond Therapy*, defines therapy as "the use of biotechnical power to treat individuals with known diseases, disabilities, or impairments, in an attempt to restore them to a normal state of health and fitness", whereas enhancement is defined as "the directed use of biotechnical power to alter, by direct intervention, not disease processes but the 'normal' workings of the human body and psyche, to augment or improve their native capacities and performances". In terms of this approach, improving human function is acceptable, provided that the improvement is therapeutic, that is, aimed at addressing a valid medical need (Juengst 1998). Conversely, enhancements are considered prima facie morally suspect and as interventions that should be approached with caution (Kass 2003). The distinction relies on the normative force behind the idea that treatments respond to legitimate medical needs, whereas enhancements are aimed at satisfying frivolous human desires and preferences (Erler 2017).

The treatment-enhancement distinction is often made in the context of discussions regarding the proper ends of medicine, with enhancement typically being described as falling beyond the scope of the traditional ends of medicine or medicine proper. For example, Mitchell, Pellegrino, Elshtain and Kilner (2007, 119), after first identifying the traditional goals of medicine, state that their operating definition of enhancement is based on the term's general etymological meaning, that is, "to increase, intensify, raise up, exalt, heighten, or magnify", and that each of these words connote "going 'beyond' what exists at some moment, whether it is a certain state of affairs, a bodily function or trait, or a general limitation built into human nature". By delineating the scope of enhancement, or so the argument goes, it is possible to set limits to both medical practice as well as the scope of goods to be covered under national healthcare insurance. Whereas treatments should be included in a basic basket of healthcare services, enhancements should be excluded, even if they happen to have some benefits for other conditions (Daniels 2000). In terms of this approach, enhancements should also be excluded

from the domain of publicly funded biomedical research and regulators should not provide approval for the development of such technologies. At present, the system for licensing drugs and medical technologies is based on a model of traditional medicine, which is aimed at preventing, diagnosing, curing and relieving disease (Sandberg and Savulescu 2011). For example, every drug available on the market for the enhancement of cognitive function was initially developed to treat an identifiable pathological condition, not to enhance normal function (Sandberg and Savulescu 2011). A strict separation between treatment and enhancement, with the latter falling beyond the scope of medicine proper, will also affect medical education as physicians are traditionally trained to serve only the recognised ends of medicine (Allert et al. 1996a). In this sense, enhancement (in contrast to treatment) serves as a moral boundary that not only limits what physicians are obligated to do, but also what patients are entitled to demand as a right (Frankford 1998; Juengst 1998). It serves both a descriptive and a normative function, much like the concept of medical futility (Juengst 1998). By drawing a line between futile treatment and treatment that might still hold some therapeutic benefit, regulators and physicians are able to demarcate the proper scope of their responsibilities towards patients. Once treatment holds no therapeutic benefit, patients are no longer entitled to such treatment and insurers may refuse to fund it. Similarly, physicians are also entitled, and even ethically obligated, to refuse to provide futile treatment. Those who support the treatment-enhancement distinction argue that, like futile treatment, enhancement falls beyond the scope of medicine's proper domain.

Juengst (1998) notes that the treatment-enhancement distinction is appealing in several respects. Firstly, it is easily reconcilable with the manner in which physicians practise medicine on a daily basis. Juengst (1998) refers to the manner in which some cosmetic surgeons justify the medical necessity of cosmetic surgeries based on diagnosable psychological suffering occasioned by a perceived physical imperfection, rather than mere personal aesthetic preferences. Secondly, physicians are trained diagnosticians and, as such, they will find the approach simple and intuitively appealing. However, a strict treatment-enhancement distinction runs into several conceptual difficulties, which become evident when one considers the manner in which the distinction is explicated in the literature. In this regard, the strict distinction between treatments and enhancements is generally based on a normative understanding of normal (species-typical) functioning. This approach is discussed below.

2.2.1 Normal Function or Species-Typical Function

In terms of a species-typical or normal function approach, medicine should limit itself to the treatment of disease, with disease being understood as a deviation from normal functioning. The most well-known proponents of the normal function approach are Norman Daniels and Christopher Boorse. Boorse (1997, 7–8) defines disease as "a type of internal state which is either an impairment of normal functional ability, i.e. a reduction of one or more functional abilities below typical efficiency, or a limitation on functional ability caused by environmental agents". Daniels (1986, 28) notes that disease is not just a "statistical notion – deviation from the statistical norm", but also "draws on a theoretical account of the design of the organism". Daniels (1986) thus has both a statistical and theoretical account of species-typical functioning in mind. In terms of this approach, functional abilities contribute to survival and reproduction of the species (Gyngell and Selgelid 2016; Schwartz 2005). Nordenfelt (2007, 6) explains: "An organ exercises its function, for instance the heart is pumping in the appropriate way, when it makes its species-typical contribution to the individual's survival and reproduction." A trait can be said to be functioning normally if it is able to fulfil its function in the appropriate situation and to a degree typical for the particular reference class (age, gender, etc.) within the human species (Schwartz 2005).

In terms of the normal function approach, enhancement is defined as "beneficial alterations to human capacities which are not performed in the context of treating disease, with diseases being understood as negative deviations from normal functioning" (Gyngell and Selgelid 2016, 114). Daniels (1994, 122) notes that: "Enhancement does not meet a medical need even where the service may correct for a competitive disadvantage that does not result from prior choices." As such, the goal of medical treatment is the restoration of equality of opportunity, not the achievement of complete equality or the eradication of all differences occasioned by the natural lottery (Daniels 1994). The goal of medical treatment, as opposed to enhancement, is to eliminate "artificial" differences and abnormal function caused by disease and illness, not all naturally occurring differences in talents and skills (Silvers 1998, 96). Treatment is solely aimed at "getting people back to 'normal,' e.g., restoring an individual's functional capability to the species-typical range for their reference class, and within that range to (the bottom of) the particular capability level which was the patient's genetic birthright" (Juengst 1997, 129). Conversely, "interventions which take people to the top of their personal potential (like athletic training) or beyond their own birth range (like growth hormone), or to the top of the range of

their reference class, or to the top of the species-typical range, or beyond(!), are all to be counted as enhancements and fall successively further beyond the domain or responsibility of medicine or health care" (Juengst 1997, 129–130).

The normal function approach is appealing from a practical and policy perspective as it provides a unified goal for medical treatment (Juengst 1997). This provides policy makers with an objective framework for resource allocation and for the balancing of the burdens and benefits of interventions (Juengst 1997). However, the approach presents several conceptual difficulties. Firstly, it is of little assistance in the context of what Juengst (1998, 36) refers to as "limitlessly beneficial personal enhancements", that is, the enhancement of psychosocial functions. The normal function approach is premised on the concept of species-typical functioning which, in turn, requires a theoretical account of what Daniels (1986, 28) calls "the design of the organism". However, there is no theoretical account of psychosocial functions that accurately identifies species-typical functioning (Juengst 1998). Whereas it may be possible to statistically determine average psychosocial capacities, it would be nearly impossible to theoretically identify the species-typical degree of a trait like kindness (Juengst 1998). As Bess (2010, 645) notes: "It is perfectly normal (!) to seek to boost these kinds of core human traits to ever-higher degrees." This problem is especially evident in the context of mood enhancement and alterations in behavioural and psychic functions (Kass 2003). Some psychiatric diagnoses are vague and it is difficult, for example, to determine the difference between extreme shyness and a diagnosable illness such as social anxiety (Kass 2003). As Berghmans et al. (2011, 157) note, there isn't a clear distinction between disease and health and "there is no simple discontinuity between the characteristic mood of patients with diagnosable mood disorders and the range of moods found in the general population".

Furthermore, the normal function approach is based on the false premise that health can be inferred from proximity to species design, with diseased organisms regarded as defective machines that differ from their original design (Kovács 1998). From an evolutionary standpoint, this is theoretically and practically false, as the environment is constantly changing, and species adapt to these changes (Kovács 1998). The individuals who survive, and consequently procreate, are those who are best able to adapt to the changing environment, not necessarily the species-typical ones (Kovács 1998). Kovács (1998, 32) notes: "The logic of evolution is: the better adaptation a somatic or mental characteristic ensures to its bearer, the healthier it is, regardless whether it is typical or not." Per illustration, Kovács (1998) refers to

acquired immune deficiency syndrome. The human immunodeficiency virus has only recently been introduced into the human population and humans are not adapted to it. It is lethal if left untreated. However, some people, who deviate from species-typical functioning, are resistant to the virus. Surely, these individuals cannot be described as diseased by virtue of being species-atypical. Furthermore, although their genes are highly species-atypical, it is possible that these genes will spread, and that the trait will eventually become typical via the process of evolution. Kovács (1998, 32) notes: "Thus to be species-typical, to be close to the species design, shows only how healthy the given organism would have been in the previous environment, but tells us less about how healthy it is right now, in the currently existing environment."

The normal function approach is also arbitrary (Parens 1998). As per Allen and Fost's (1990, 18) often cited example of the growth hormone (GH) deficient boys, Johnny and Billy:

> Johnny is a short 11-year-old boy with documented GH deficiency resulting from a brain tumor. His parents are of average height. His predicted adult height without GH treatment is approximately 160 cm (5 feet 3 inches). Billy is a short 11-year-old boy with normal GH secretion according to current testing methods. However, his parents are extremely short, and he has a predicted adult height of 160 cm (5 feet 3 inches).

If one accepts the normative force of the treatment-enhancement distinction, it would be acceptable to treat Johnny as his growth deficit is caused by diagnosable underlying disease. It would, however, not be permissible to treat Billy, as his growth deficit is not caused by a pathological condition. Gyngell and Selgelid (2016) provide a further example by assuming that pathological function is defined as two standard deviations below the mean, and that the average intelligence quotient is 100 with a standard deviation of 10 points. They ask the reader to imagine two people, Jim, who has an intelligence quotient of 79, and Jane, who has an intelligence quotient of 81. A new drug becomes available that makes it possible to raise both Jim and Jane's intelligence quotient to 100. In terms of the normal function approach, Jane will not be entitled to the treatment as the intervention would be an enhancement in her case. In the context of mood enhancement, Daniels (2000) refers to the example of shyness and how the normal function approach played a role in coverage for mental health therapies within the Harvard Community Health Plan (HCHP) in New England. Daniels (2000) refers to a real example of a patient who presented with a history of bipolar mood disorder, but who had been

stable on medication for a number of years. Despite his illness being under control, the patient remained extremely shy and was referred to out-of-plan group therapy. In terms of the HCHP's revised benefit structure, this long-term treatment constituted an extended benefit that would only be covered if the treatment was for a serious condition. The psychiatrist thus had to motivate that the patient's shyness was a serious disorder. The treating psychiatrist motivated treatment on the basis that the shyness was the result of the onset of bipolar mood disorder during the patient's adolescence. Had the disorder not interfered with his development, the patient, who had a good self-esteem before the onset of the disorder, would likely have been more outgoing. Had the psychiatrist been unable to draw a causal link between the shyness and bipolar disorder, the patient would not have been eligible for the benefit, irrespective of the severity of his shyness and its impact on his quality of life.

The conclusions reached in the aforementioned cases seem counterintuitive. Both Johnny and Billy live in a society where a high premium is placed on tall stature and where discrimination based on height ("heightism") is a reality (Allen and Fost 1990). Both boys will suffer equally and are in equal ways undeserved victims of the natural lottery. The intervention, from the perspective of the two boys, will also have the same underlying goal, which is not necessarily height per se, but "to enhance that child's chance for a good and fulfilling life – a life not marred by discrimination nor undue difficulty navigating the world; a child whose confidence is not crushed under the oppressive conviction that she or he can never 'measure up'" (Murray 2007, 497). Billy will, however, not be considered deserving of treatment based solely on the fact that he has a normal genotype. The initial difference between Jim and Jane of two intelligence quotient points also does not seem like a convincing moral basis for making a distinction between them. Insofar as it relates to any kind of human capacity, it will often also be unclear whether the factors determining such capacity are pathological or normal (Bostrom and Roache 2008). For example, Bostrom and Roache (2008) ask whether having a gene that is present in 20% of the population, and which correlates negatively with intelligence, should constitute a pathology? Individuals who have large numbers of these genes may be cognitively impaired, but it will not necessarily present as a distinctive pathological process. Similarly, if scientists were able to identify the genes that make some receptors to growth hormones less responsive in Billy, it is unclear why these genes should not be regarded as defects or diseases, especially if their mechanisms are analogous to pathological defects (Daniels 2000). A person with social anxiety disorder and a healthy person may be equally shy and suffer equally as a result. Daniels (2000, 311) notes: "Both are shy through no fault of their own – assuming normal shyness is a

feature that is significantly determined by temperament or by exposure to early learning situations that one did not choose to be in." Furthermore, it is not "idiosyncratic or extravagant" to prefer to be outgoing, rather than extremely shy, and to enjoy the social relationships and benefits associated with a more outgoing disposition (Daniels 2000, 311). De Grazia (2005a, 263) notes: "Since such patients struggle with psychological phenomena that can be ameliorated with medication, it means little to say that they are not ill whereas someone who, say, barely qualifies as having depression or clinical anxiety is ill." The treatment-enhancement distinction thus arguably prevents society from recognising and responding to its responsibility to relieve suffering and permits treating relevantly similar cases differently (Daniels 2000; Parens 1998).

The normal function approach also runs into difficulty as the concept of normality differs across time and populations, or even just within a single person's own lifetime (Bess 2010; Bostrom and Roache 2007). Aronowitz (2001, 808) notes: "Although biological and clinical factors set boundaries for which symptoms might plausibly be linked in a disease concept, social influences largely explain which symptom clusters have made it as diseases." For example, much of what was previously considered normal aging is increasingly being treated as disease (Hofmann 2017). Assisted reproduction is now generally considered to be treatment, whereas it was previously seen as a form of enhancement (Hofmann 2017). Conversely, some conditions that were previously considered pathological are now considered normal or imaginary, such as masturbation, homosexuality or drapetomania, the latter being a so-called "disease" described in the 17th century which caused slaves to escape (Daniels 2000; Gyngell and Selgelid 2016). Freitas (1999) refers to fact that in 19th century Japan, armpit odour was considered a disease and its treatment was considered a medical specialty. In the context of mood enhancement, Berghmans et al. (2011, 157) note that: "Historical, cultural, and societal factors play a role in the conceptualization of mood, the demarcation of psychiatric illnesses and diagnoses (i.e. depression, manic depressive disorder, anxiety disorders, social phobia, etc.), and different societal ways of dealing with suffering individuals." Liao and Roache (2011) refer to the various cultural understandings of normal bereavement. Whereas it is common for physicians in the United States to prescribe antidepressants to patients if their grief continues for more than a year, it is considered "normal", and in fact expected, of women in rural Greece to grieve for five years if their husband or child dies. One might thus argue that the fact that attention deficit hyperactivity disorder is considered a legitimate and treatable

illness is merely a reflection of the type of "cognitive style" valued by contemporary society (Gyngell and Selgelid 2016, 113).

Whether a particular trait is considered normal also depends on the possibility of improving such a trait (Harris 2009). In the context of mood enhancement, psychiatry has come to recognise the biological basis of several conditions that were previously considered to be spiritual and existential problems and, as such, these conditions are increasingly being treated as pathologies (Svenaeus 2009). Svenaeus (2009, 170) notes: "The kernels of depression and anxiety disorders are essentially the same as before the advent of the new drugs, but the territory of illness has clearly been expanded to include self-feeling-problems, which were earlier considered painful, but still not medical in nature." Bjorklund (2005, 137) notes: "New technologies like Prozac inevitably challenge our definitions of health and illness, stretching their margins and further blurring the boundaries between normal variation (health) and pathology (illness)." Moreover, the availability and aggressive marketing of antidepressants by pharmaceutical companies has probably resulted in a broader interpretation of the diagnostic criteria for certain psychiatric disorders (Svenaeus 2009). Since its initial publication in 1952, more than four hundred new categories of mental illnesses have been added to the *American Psychiatric Association's Diagnostic and Statistical Manual* (2013), and these categories are likely to continue to expand to include personality traits and behaviours that are not presently recognised as mental disorders (Schermer, Bolt, de Jongh and Olivier 2009).

Some have expressed concern that this trend medicalises normal life and that normal, albeit unfavourable, traits are increasingly being redefined as pathologies (Coenen et al. 2011). This trend has been described as "disease mongering", that is, "the selling of sickness that widens the boundaries of illness and grows the markets for those who sell and deliver treatments" (Moynihan and Henry 2006, 0425). However, one must consider whether medicalisation should in fact be considered inherently wrong. It is not clear why medicalisation should not be understood in purely descriptive terms, that is, as social processes in terms of which unfavourable conditions come to be regarded as diseases (Schermer and Bolt 2011). Synofzik (2009, 94) notes that: "Very often it is not further explicated why this should be normatively problematic, but the concept is rather used as a cryptonormative rhetoric move." By attaching a normative value to medicalisation as "bad", its critics presuppose that they know what should be understood as abnormal and diseased (Schermer and Bolt 2011). Conditions are generally considered to be acceptable if they are inevitable, for example, dying from old age. However,

it is unclear why one should still accept these conditions if they are no longer inevitable. As Harris (2009, 142) notes, treating diseases of old age then constitutes simultaneous treatment and enhancement, but "only because treating disease seems typical of therapy not because normal species functioning does or can play any role at all in the argument." Normality per se (and thus the treatment-enhancement distinction) seems to have little moral force in this sense. Harris (2009, 150) notes:

> Traits in short are not acceptable (in the normative rather than of course the simply descriptive sense of 'acceptable') because they are normal, they are acceptable because they are worth having. If they are not worth having, or if they are worth not having, their normality seems bereft of interest or force. This it seems to me obviously applies to saving life, that is to postponing death or to increases in longevity, resistance to the diseases of old age and to those which strike at any time like HIV, cancer, and heart disease. Whether it also applies to enhancements in cognitive function like memory or other processing skills, or to personality, is more problematic only in so far as the benefits are more problematic in many ways. There seems to be no difference in principle here and so no difference in the relevant ethical considerations.

Another conceptual difficulty with the normal function approach is the fact that some forms of preventative medicine qualify as enhancements in terms thereof (Harris 2009; Juengst 1997; Murray 2007). However, preventative medicine is generally considered legitimate medicine and some forms, such as vaccines, are arguably morally required public health interventions (Brock 1998). Something like a vaccination can be seen as either an enhancement of the immune system or a preventative therapy (Bostrom and Roache 2008). Juengst (1997) refers to using gene transfer techniques to prevent disease by enhancing the immune system. Juengst (1997, 126) notes: "To the extent that disease prevention is a proper goal of medicine, and the use of gene transfer techniques to strengthen or enhance human health maintenance capacities will help achieve that goal, then the treatment/enhancement distinction cannot confine or define the limits of the properly medical use of gene transfer techniques." Furthermore, the normal function approach does not tell one which preventative interventions, if any, should be included within medicine's legitimate scope. Brock (1998) notes that if immunisation against specific diseases forms part of a basic package of healthcare services, there is no convincing reason why a future intervention that strengthens the body's ability to resist disease in general should be excluded on the basis that it alters normal functions. Furthermore, contemporary medicine

includes many acceptable practices (plastic surgery, fertility treatment, contraception, etc.) that are not aimed at curing or preventing diseases (Bostrom and Roache 2008).

The normative force of the normal function approach also seems lacking when one considers its underlying assumption regarding the nature of the moral claim to healthcare. In terms of Daniels' (2000) account, treatment differs from enhancement in that the motive behind treatment, and the basis for the moral right to healthcare, is to restore equality of opportunity by means of restoring normal function. Harris (2009) notes that society should, of course, strive to maximise equality of opportunity in healthcare and equal opportunity may be an additional basis for a moral right to healthcare and can assist in the fair allocation of resources in conditions of scarcity. However, Daniels is mistaken in his belief that achieving equal opportunity is the principal reason for, or even an essential part of, a moral right to healthcare. Instead, one intervenes in the natural lottery for reasons that include compassion, beneficence, to prevent harm and to gain benefits (Harris 2009). Harris (2009, 145) notes that: "Where the provision of health care will prevent harm to human beings, the moral argument for delivering that care is as complete as it needs to be." Harris (2009) illustrates this point by way of two examples. Firstly, restoring species-typical functioning or equality of opportunity would not assist in explaining the moral imperative for introducing a new protective treatment where everyone is equally disadvantaged by not having the treatment before its implementation. Similarly, an appeal to equality of opportunity would also not explain the moral imperative for treating a debilitating condition if everyone suffered from it and were therefore equally disadvantaged. Harris (2009, 146) notes: "The unnecessarily reduced opportunity would itself constitute sufficient moral reason for 'intervening in the natural lottery', not for the sake of equal opportunity (nor surely for the sake of competition), but for the sake of enhanced opportunity or enhanced functioning."

Clearly, judgements about the moral acceptability of interventions cannot be based solely on the treatment-enhancement distinction. In terms of the treatment-enhancement model, enhancement is used as a boundary concept to delineate, amongst others, what is permissible, impermissible, obligatory, not obligatory and what should be publicly funded or privately paid for. As Juengst (1998) notes, it is supposed to serve a similar role as the concept of medical futility. However, the descriptive and normative roles that enhancement is expected to serve do not align neatly. Determining medical futility is a matter of clinical judgment and most competent physicians should have little difficulty assessing futility of treatment. Medical

futility's descriptive and normative roles thus align relatively well. Juengst (1998, 30) explains how applying enhancement as a boundary concept in this manner is not as easy:

> For enhancement interventions, however, the descriptive and normative implications of calling them 'enhancements' seem to be at cross purposes. While futile treatments literally do no good, enhancements are by definition and description improvements: changes for the good. Yet, normatively, the function of calling them 'enhancements' is to place them beyond the pale of proper medicine. For a profession dedicated to pursuing the improvement of its patients, the fact that enhancements act, descriptively, just like all the other improvements the profession strives to achieve makes it difficult to discern when an intervention transgresses the normative boundary that the concept purports to mark.

2.3 Alternatives to the Not-Medicine Approach

Due to its various conceptual difficulties, some attempt to sidestep the treatment-enhancement distinction altogether. A number of alternative approaches to understanding enhancement appear in the literature, the most notable of which are discussed below.

2.3.1 A Beyond-Species-Typical Approach

In terms of a beyond-species-typical approach, enhancements are defined as "biological or psychological alterations that increase a person's functioning beyond species typical levels" (Gyngell and Selgelid 2016, 114). In order to illustrate the difference between a beyond-species-typical approach and a normal function approach, Gyngell and Selgelid (2016) reconsider the case of Johnny and Billy, the two growth-deficient boys. In terms of a normal function approach, treating Billy with growth hormone would be an enhancement as his short stature is familial in nature, yet giving it to Johnny would be medical treatment as his short stature is caused by a brain tumour. Conversely, in terms of a beyond-species-typical approach, neither of the two boys will be enhanced, provided that the treatment does not cause either of them to grow beyond species-typical height. However, should the treatment cause either of the two boys to grow taller than species-typical height, the intervention would constitute a form of enhancement.

As with a normal function approach, a beyond-species-typical approach often leads to counterintuitive results. Gyngell and Selgelid (2016) illustrate this point by again considering the example of Jim and Jane. In terms of a beyond-species-typical approach, both Jim and Jane's intelligence quotient scores are still within species-typical levels following treatment and, as such, neither will be enhanced. Gyngell and Selgelid (2016), however, ask us to imagine that the medical intervention will raise Jim's intelligence quotient to 119 and Jane's to 121. Seeing that species-typical levels are defined as being within two standard deviations of the mean, the increase in Jane's intelligence would be an enhancement, but not so in Jim's case. In terms of a beyond-species-typical approach, there is a morally relevant difference between Jim and Jane's increase in intelligence. This seems counterintuitive, as they both had their intelligence quotient raised by the same number of points and ended up with near identical scores following the intervention (Gyngell and Selgelid 2016). Using species-typical functioning as a morally relevant benchmark may have further counterintuitive results due to the fact that there is wide variation in traits between members of the human species (Gyngell and Selgelid 2016). Gyngell and Selgelid (2016) refer to an example of female athletes who take testosterone. Female athletes are generally not able to raise their testosterone limits beyond what is typical for both sexes (thus species-level) and, as such, they will not be considered to be enhancing themselves if they take testosterone. However, the same cannot be said for male athletes who take testosterone. This distinction seems unfair as both the male and female athletes are using performance enhancing drugs. As an alternative, one could modify the beyond-species-typical approach to limit enhancement to interventions that increase functions beyond the range typical for persons of the same reference class, for example, the same sex or age (Gyngell and Selgelid 2016). However, identifying the relevant reference classes may be arbitrary and difficult. As Gyngell and Selgelid (2016, 115) note:

> Ethnicity, place of residence, employment status, and so on all affect what values are typical for any given trait. Why not create reference classes based on these characteristics? What about all other factors that affect our traits? When we start to consider factors beyond species membership, we regress to a highly individuated notion of enhancement. However, if we do this we are creating a definition of enhancement very different from that originally outlined by BSTA.

It would also be difficult to agree on reference classes without making normative assumptions and without "requiring an endless number of extremely fine-grained reference classes" Synofzik (2009, 92). Even if it is possible to identify specific reference classes, Synofzik (2009,

92) notes that “normative implications would not necessarily follow from statistical normality, but have to be differentiated from each other”. The same criticism holds true for the normal function approach.

2.3.2 A Beyond-Species-Maximum Approach

In terms of a beyond-species-maximum approach, interventions that increase human functions and traits beyond what is naturally possible for the human species are enhancements (Gyngell and Selgelid 2016). In terms of this approach, only very exceptional cases will qualify as true enhancements. Gyngell and Selgelid (2016) identify three difficulties with this approach. Firstly, it is difficult to empirically determine species-maximum limits for humans. As Juengst (1997, 131) notes:

> As far as we know, we've never seen the tops of the ranges. Performing better than one ever has before, or better than anyone ever has before, might just be a first step towards the true ceiling. In any case, we would not know the ceiling if we did see it, because there is nothing that sets a limit like death does at the other end of the range.

Secondly, this approach becomes incoherent if one accepts that species are lineages, rather than organisms with set characteristics. In this regard, Gyngell and Selgelid (2016, 116) note:

> On this view, species are seen as lineages composed of individuals who stand in certain ancestral relations to each other. If we think about species in this way, the notion of species-maximum values seems problematic. Homo sapiens is defined as a lineage rather than an organism with particular characteristics. Our traits could radically change through natural evolutionary processes without changing which species we belong to. Hence any properties we could acquire through the use of enhancement technologies would not take us beyond species-maximum values.

Lastly, the approach is premised on the dubious distinction between natural and unnatural. Virtually every aspect of the world, including physical and biological nature, is unnatural to the extent that it has been altered in some sense by human interference (Bess 2010). Furthermore, human beings are part of nature and, as such, it is unclear on what basis something should be regarded as unnatural simply because it is the result of human intervention (Gyngell and Selgelid 2016). What one considers natural is simply what is usual and, as such, it is subject

to frequent change (Hofmann 2017). Furthermore, due to mutation, there is no such thing as a fixed species-typical genome and humans, like other biological species, do not have fixed natures (Hofmann 2017).

2.3.3 An Ideological Approach

In terms of an ideological approach, it is impossible to accurately and objectively identify the limits of enhancement (Juengst 1998). In terms of this approach, the term "enhancement" is not defined as such, but a list of technologies is identified, or the goals of enhancement are identified, and the field is then described with reference to the same (Savulescu et al. 2011). For example, the field of enhancement is often described in terms of the goal of fulfilling human desires (Savulescu et al. 2011). Savulescu et al. (2011, 4) explain that "often controversial values are applied to a range of possible technological advances, and these are directly classified as morally wholesome or problematic." Although an ideological approach provides a set of value claims that may be relevant to the debate, it does not provide a robust conceptual framework for tackling the enhancement question (Savulescu et al. 2011).

2.3.4 A Functional Approach

A further approach to understanding enhancement independently of the treatment-enhancement distinction, is a functional approach whereby enhancement is defined in purely descriptive terms as an increase in traits or functions (Gyngell and Selgelid 2016; Savulescu et al. 2011). Earp et al (2014, 2) state that in terms of this approach, interventions are enhancements "insofar as they improve some capacity or function (such as cognition, vision, hearing, alertness) by increasing the ability of the function to do what it normally does." The focus is thus on "*capacities, moods,* or *functions* that might be improved by the pharmacological (or other) intervention – 'improved' in the sense of facilitating more of whatever it is that the function normally does".

A purely descriptive understanding of enhancement is conceptually simple and it will be easy to identify enhancements as, simply put, any interventions that increase function. Some believe that its simplicity is one of the virtues of the functional approach, whilst others criticise it on account of the fact that it obfuscates the distinction between enhancements and therapies (Gyngell and Selgelid 2016). Several medical treatments can be described as increasing

capacities in some way and would, in terms of a functional approach, thus qualify as enhancements. Furthermore, some interventions that one may have good reason to describe as enhancements, for example memory reducing drugs for victims of traumatic crimes, actually decrease function and would thus fall beyond the scope of a functional description of enhancement (Earp et al. 2014). It could, however, be argued that interventions aimed at diminishing functions could qualify as enhancements in terms of a functional approach, depending on one's understanding of "function" (Gyngell and Selgelid 2016). In this regard, Gyngell and Selgelid (2016) distinguish between an etiological account of function, on the one hand, and a goal contribution account, on the other. Taking the example of a memory reducing drug, taking the drug will help a victim of a traumatic crime to live a more effective life. The decrease in memory could thus be described as having the effect of increasing survival and reproduction, thereby qualifying as an increase in function (and an enhancement) in terms of a goal contribution account (Gyngell and Selgelid 2016). Conversely, taking the drug will not be considered an enhancement in terms of an etiological account of function, as the etiological function of memory is understood to be recollection (Gyngell and Selgelid 2016). As enhancement is defined purely as an increase in existing functions, this definition also excludes interventions aimed at adding new functions that the recipient did not possess before as well as adding non-human traits and cases of transhumanism (Gyngell and Selgelid 2016). A useful understanding of enhancement should arguably include these types of interventions as they are some of the most ethically contentious forms of interventions around which a lot of the enhancement debate revolves. Ultimately, a purely descriptive account of enhancement lacks normative force and does not tell one whether an improvement or increase in function is actually morally desirable. On the other hand, to interpret this account normatively, in other words, to assume that an increase or improvement in function per se is morally good, is also disingenuous (Hall 2012). In this regard, Hall (2012) notes that an intervention may enhance local functioning in a purely descriptive sense (enhancement as augmentation) but will not necessarily enhance overall functioning (enhancement as improvement). To this extent, a function account does not provide adequate moral guidance.

2.3.5 A Welfarist Approach

In terms of a welfarist approach medical treatments and enhancements are both aimed at the same goal, namely, increasing the chances of leading a good life (Savulescu et al. 2011). A welfarist conception of enhancement differs from the not-medicine approach in that it does not

assign any moral relevance to the distinction between treatments and enhancements (Giubilini and Sanyal 2016). Giubilini and Sanyal (2016, 1) note that: "The non-medicine approach takes the distinction to be factually and morally important, while the welfarist approach sees the 'normality' that medicine aims to restore as a merely statistical notion, subject to change over time, with no moral significance." A welfarist approach endorses a normative concept of enhancement in terms of which "any change in the biology or psychology of a person which increases their chances of leading a good life in a given set of circumstance" is an enhancement (Earp et al. 2014, 2). Savulescu et al. (2011, 7) note:

> The improvement is some change in state of the person – biological or psychological – which is good. Which changes are good depends on the value we are seeking to promote or maximize. In the context of human enhancement, the value immediately in question is the goodness of a person's life, that is, his or her well-being.

As enhancements are per se considered good in terms of a welfarist approach, it forces one to ask whether specific interventions should be considered enhancements, rather than focusing on the moral soundness of enhancement in general (Gyngell and Selgelid 2016). A welfarist approach thus forces one to consider whether the intervention can generally be expected to increase the chances of achieving wellbeing (Savulescu et al. 2011). For example, instead of asking whether or not there are moral grounds for using mood enhancers, one should ask whether finetuning one's personality will necessarily be an enhancement in the specific circumstances (Gyngell and Selgelid 2016; Nagel 2014). As Nagel (2014) notes, while "enhancement per se always aims for something good, i.e., well-being, the evaluation of an enhancement varies between individuals depending on their situation" and, as such "the moral evaluation of the intervention in specific cases does not depend solely on the desired goal of the intervention".

Roache and Savulescu (2018, 248) argue that the current approach to mental illness should be replaced with a welfarist approach in terms of which a person is recognised as suffering from a mental disorder (Roache and Savulescu prefer to use the more neutral term "psychological disadvantage") if they present with psychological traits that will likely adversely affect their wellbeing, having regard to the particular social and environmental context. Being diagnosed with a mental disorder would thus not involve any assumption that the patient is subnormal, as the diagnosis would depend on the individual patient's circumstances (Roache and Savulescu

2018). For example, social anxiety may be experienced as a disability for someone whose occupation or lifestyle involves many social encounters, but not for someone who is able to live and work in relative isolation (Roache and Savulescu 2018). McConnell and Savulescu (2020, 38) describe the welfarist approach in a psychiatric context as follows:

> In welfarist psychiatry, the concept of mental disorder is replaced with the much broader concept of psychological disadvantage (PD). A PD is a stable psychological trait that tends to worsen well-being given the social and environmental context. In contrast to mental disorders, PDs do not necessarily form part of a syndrome, involve no threshold between health and dysfunction, may include socially deviant behavior, and are not wholly attributable to the individual's 'underlying mental functioning' because they involve a mismatch with the environment.

In terms of a welfarist approach the assessment of wellbeing is context-specific and not general to the species (Earp et al. 2014; Zohny 2016). Consequently, both an increase and a diminishment of traits or functions may be enhancements, provided that the normative goal of the intervention is an increase in the recipient's wellbeing (Earp et al. 2014). Unlike species-typical approaches the direction (an increase or a decrease) of the change in function is irrelevant for definitional purposes. In this sense Savulescu et al. (2011) make a distinction between functional enhancement and *human* enhancement. Whereas functional enhancement merely denotes an upward improvement in capacity without saying anything about the effect the change has on the person's life, *human* enhancement requires an actual improvement in the person's life. A welfarist approach recognises that interventions aimed at diminishing higher order capacities or functions may contribute to human welfare and that these technologies raise similar ethical concerns to those aimed at increasing capacities (Earp et al. 2014). For example, soldiers or victims of traumatic crimes might benefit from being given a drug to reduce the emotional intensity of their memories (Earp et al. 2014). More is not always better and there are cases where increases in functions and capacities may be detrimental to wellbeing. For example, too much empathy may lead to neglecting one's own personal needs or improved hearing may be distressing or distracting in a very noisy environment (Earp et al. 2014). Earp et al. (2014) note that although some forms of functional diminishment may involve decreasing function from a pathological to a species-typical state, increasing wellbeing will often involve decreasing function to a below species-typical level. Earp et al. (2014) refer to the example of healthy people using beta blockers to decrease stress before big events. Another example is the treatment of body integrity identity disorder, a rare condition that causes individuals to suffer

a disassociation from a healthy limb and develop an obsessive desire for its amputation (Nagel 2014). Patients who suffer from the condition do not respond well to pharmacological treatment and psychotherapy and, as such, amputation of a healthy limb may present the best available means to relieve suffering and increase the patient's subjective wellbeing (Nagel 2014). Technologies aimed at adding entirely new capacities (as opposed to just increasing or weakening current capacities), as well as certain forms of body-modification aimed at self-expression, could also be defined as enhancements under this model, provided that it tends to contribute to the recipient's sense of wellbeing (Earp et al. 2014). Similarly, whether or not a trait falls above or below species-typical levels is not a determinative factor when defining enhancement. An increase in traits or functions up to, or even beyond, species-typical levels will only be an enhancement if it in fact increases wellbeing (Gyngell and Selgelid 2016). Furthermore, as opposed to disease-based models, interventions are defined as enhancements without having regard to the presence or absence of any objective or perceived underlying pathology. An intervention may be classified as an enhancement if it tends to improve wellbeing, irrespective of whether or not it is aimed at treating a recognisable pathological condition (Zohny 2014). This is a very broad understanding of enhancement and includes both medical treatments aimed at curing disease and other uses of medicine that are not currently defined as enhancements. In terms of this approach medical treatments are a subclass of enhancement in general (Gyngell and Selgelid 2016; Savulescu et al. 2011). Enhancements thus include a range of improvements, from the medical treatment of disease to increasing natural human potential within the species-typical range and posthuman enhancements at the very extreme end of the spectrum (Savulescu 2006).

Earp et al. (2014, 4) note that it also does not matter whether "the modification is being accomplished by means of a drug, a biochip, an electrical brain-stimulator, or something more familiar and lower tech", or "if the intervention is called 'medicine' or 'therapy' or 'beyond therapy' or anything else". A welfarist approach does away with the distinction between science and technology-based interventions aimed at the body and conventional interventions such as exercise, education and diet (Zohny 2014). The distinction between technologies aimed at treating disease or disability, on the one hand, and those aimed at enhancement, on the other, is ambiguous and confusing due to the fact that the technologies often belong to the same class and may operate through the same physiological pathways (Murray 2007; Parens 1998). As technology develops, it will become increasingly difficult to disentangle treatment from enhancement (Bess 2010). Although most technologies are developed for medical or research

purposes, they are also used, or may in the future be capable of being used, for enhancement purposes (Earp et al. 2014). The same therapies may restore normal functioning for some, but radically enhance others (Harris 2009). Technology aimed at increasing muscle mass can be used to treat a patient suffering from a degenerative muscle disease, but also to enhance the performance of a professional athlete (Parens 1998). Somatic gene therapy can be used to treat genetic diseases, but also to modify other genes (Bess 2010). Antidepressants can be used to treat depression, but also to increase general wellbeing in a healthy patient (Bess 2010). Chatterjee (2007) notes how advances in clinical neurosciences may even bolster mood enhancement in the same way that the decreased demand for reconstructive surgery[1] bolstered cosmetic surgery. For example, Chatterjee (2007) notes how intensive research is currently being done to understand the etiology of Alzheimer's disease. At present, treatments are merely symptomatic, and nothing can be done for these patients in terms of halting or reversing the disease. However, should it one day become possible to diagnose and treat Alzheimer's disease in its preclinical stages, it is not entirely unlikely that these treatments, initially developed to treat disease, will also be used for enhancement purposes.

Some criticise a welfarist approach on the basis that it overemphasises individual wellbeing at the expense of other bioethical principles (Zohny 2014). This critique is based on a misunderstanding of what a welfarist approach seeks to achieve. The welfarist approach defines enhancement but does not provide an account of whether or not the particular intervention is morally sound (Earp et al. 2014; Zohny 2014). Although a welfarist approach identifies wellbeing as the defining element of human enhancement, it leaves the door open to further ethical analysis and considerations aside from the prudential good (Nagel 2014; Zohny 2014). Savulescu et al. (2011, 7) note:

> It singles out well-being as one dimension of value that is constitutive of genuine human enhancement. But it leaves open substantive and contentious questions about the nature of well-being, and important empirical questions about the impact of some treatment on well-being. Moreover, whereas the ideological approach only offers us all-things-considered value judgments about various treatments, the welfarist approach distinguishes ways in which some treatment might benefit a person from other relevant values, such as justice. It thus allows us to

[1] Chatterjee argues that advances in medicine, and technical interventions such as seatbelts and shatterproof glass, reduced the demand for surgeries to correct congenital deformities or traumatic injuries, which in turn resulted in the increased appeal of the practice of cosmetic surgery.

> say that although some treatment is an enhancement (i.e. contributes to individuals' well-being), it might nevertheless be bad overall, because its employment in the current social context will lead to far greater injustice.

A specific concern related to the principle of justice is that people who are discriminated against on account of traits like sexual orientation or the colour of their skin, may be seen as suffering from disabling conditions in terms of a welfarist approach (Zohny 2016). In terms of a welfarist approach, a disability can effectively be defined as "any state of a person's biology or psychology which decreases the chances of leading a good life in the relevant set of circumstances" (Zohny 2016, 1). If someone lives in a homophobic society, being homosexual may reduce their chances of living a good life in the relevant set of circumstances. Should homosexuality then be seen as a mental disorder in terms of a welfarist approach? And, if so, does this render the approach fatally flawed? Savulescu and Kahane (2011) suggest that when defining disability, social prejudice should be excluded from the relevant set of circumstances that decreases a person's chance of leading a good life and one should, instead, always address the underlying social problem directly. Zohny (2016), however, provides two reasons why it is unnecessary to reconceptualise the welfarist approach in this manner. Firstly, the welfarist approach does not provide an account of *inherently* good or bad biological or psychological states but draws one's attention to the prudential value of various states. The approach is also neutral insofar as it relates to the question whether or not the relevant circumstances that affect wellbeing are morally acceptable. Secondly, a welfarist approach provides a broad understanding of enhancement, not an account of the permissibility of specific enhancements. For example, even if a yet undiscovered psychiatric treatment may allow a homosexual person to become heterosexual, which may increase their wellbeing in a homophobic society, it is still compatible with a welfarist approach to regulate or ban such practices for other reasons, including considerations of justice or non-maleficence (McConnell and Savulescu 2020). Zohny (2016, 4) notes: "Nothing about the welfarist account entails that the promotion of individual well-being trumps all other values, let alone that such a promotion should be realised through biomedical means, as opposed to environmental changes." Zohny (2016) suggests abandoning terms like "disability" and instead using terms like "disadvantaged state". This aligns better with the underlying premise of a welfarist approach, which includes the rejection of the idea that disability is a morally relevant deviation from species-typical functioning (Zohny 2014).

The welfarist approach has further been criticised on the basis that a clear distinction between therapies and enhancements is necessary for policy-making purposes and the prioritisation of healthcare needs (Zohny 2014). Erler (2017, 610) notes: "Given reasonable constraints on public resources, society has an obligation to provide access to biomedical interventions to people who need them to satisfy important interests (from a public policy perspective), including legitimate medical needs, but not to those who seek such interventions in order to satisfy mere preferences or expensive tastes." Zohny (2014) acknowledges that therapeutic interventions will generally contribute more to wellbeing compared to interventions that enhance normal function and, as such, one will usually have good normative reasons to prioritise the former. This will, however, not always be the case. For example, slightly enhancing "normal" levels of self-control may have a far more profound impact on wellbeing than treating a mild case of asthma. One only needs to think of the impulse control experiments conducted by Walter Mischel to illustrate the profound impact that something like impulse control has on how well one does in life. The experiment entailed leaving four-year-old children in a room with one marshmallow. They were instructed that if they managed not to eat the marshmallow, they will later be given two marshmallows. After being left alone in the room, some of the children immediately ate the marshmallow, whilst others managed to resist the temptation. Follow-up tests were done on the same children a decade later, which showed that the children who were able to resist immediately eating the marshmallow were better academic performers and generally fared much better in life compared to the children who were unable to delay gratification. The child's impulse control, as evidenced by the marshmallow experiment, had a much greater impact on their academic performance than their intelligence quotient later in life (Mischel, Shoda and Peake 1988).

In this sense a welfarist approach is not incompatible with, and does not necessarily outright reject, the moral relevance of the treatment-enhancement distinction in appropriate circumstances. One should, however, be wary of blindly accepting binary and absolute distinctions (Bess 2010; Gyngell and Selgelid 2016). Gyngell and Selgelid (2016, 111) note that the treatment-enhancement distinction, in its various forms, may sometimes illuminate the "morally relevant spectra". For example, species-typical approaches draw one's attention to the continuous spectrum of human functioning, with species-typical levels situated somewhere in the middle. A disease-based model, on the other hand, highlights distinctions within the spectrum of health, a complete state of health and extreme disease sitting at opposite ends of the spectrum (Gyngell and Selgelid 2016). By rejecting a binary distinction between treatment

and enhancement, one is able to place interventions somewhere on a spectrum. Where a particular intervention is situated on a spectrum, relative to other cases, may sometimes be morally relevant (Gyngell and Selgelid 2016). Similarly, Synofzik (2009) notes that these concepts, as purely descriptive terms, may also be helpful, provided that one does not attach undue normative weight to them. Synofzik (2009, 96) notes: "As descriptive terms they might keep a residual heuristic function in theoretical discourse and in medical decision-making by indicating potentially problematic applications of certain interventions: If, for example, a psychotropic is applied to a state which is not a clear-cut disease, which lies well above normal functioning or which has not been part of the medical domain so far, it needs special attention and ethical analysis." Gyngell and Selgelid (2016) note that these spectra may be especially morally relevant in cases where interventions clearly fall at opposite ends of a spectrum. Interventions closer to the enhancement end of the spectrum are more likely to exacerbate inequalities, whereas treatments generally tend to promote equality. In the context of mental health, McConnell and Savulescu (2020) note that pairing welfarist psychiatry with an egalitarian view of distributive justice might require that governments prioritise the treatment of more severe states of psychological disadvantage that have a more serious impact on wellbeing and traditionally qualify as hard psychiatric disorders. However, where financially viable, public resources could still be used to treat milder forms of psychological disadvantage that do not qualify as "disorders proper" (McConnell and Savulsecu 2020, 39). This does not mean that inequality is bad or that enhancements are immoral, but may provide policymakers with a guideline for prioritising different interventions, which is still compatible with a welfarist approach (Gyngell and Selgelid 2016). Gyngell and Selgelid (2016, 123) explain it as follows:

> In a beyond-species-typical approach (conceived in a scalar rather than a binary fashion), an intervention at the treatment end of the spectrum involves moving individuals, who would otherwise have been below the mean level of functioning, towards the mean. An intervention at the enhancement end of the spectrum will involve moving someone who is already above the mean level of functioning to an even higher level. For traits that are related to well-being and opportunity, this is an important difference. Other things being equal, interventions at the treatment end of the spectrum will tend to promote fundamental equality, whereas interventions at the enhancement end of the spectrum will tend to promote inequality. Similarly, those at the disease end of the spectrum will (other things being equal) tend to be worse off than those at the healthy end. In a formal function approach (conceived in a scalar rather than a binary fashion),

> an intervention at the treatment end of the spectrum (i.e. aimed at restoring health in someone who is clearly (very) diseased) will tend to be equality-promoting, whereas an intervention at the enhancement end of the spectrum (improving the traits of someone who is clearly (very) healthy) will tend to increase inequality.

Some have criticised the welfarist approach as overly broad in that a clear distinction between technology and science-based biomedical interventions and more traditional interventions (education, diet, etc.) should be made (Sandberg 2011). In this regard, some argue that there are qualitative differences between the means used in the two types of interventions (Zohny 2014). Synofzik (2009) speculates that the bias against the use of biomedical interventions in the improvement of certain conditions may be based on concerns that the etiology of the condition differs from that of the treatment modality. However, in the context of mood enhancement, psychosocial problems are regularly improved by means of treatments that are of a physical or neurochemical nature, and this is not considered problematic (Synofzik 2009). For example, depressive mood can be improved by running, sunbathing or eating a slab of chocolate, in which case the mood improvement is caused by exposure to oxygen, melatonin and improved serotoninergic and dopaminergic transmission (Synofzik 2009). As such, the difference in etiology cannot perform its purported normative function and there are no prima facie reasons why psychopharmaceuticals should automatically be considered more problematic than other forms of treatment or coping behaviours (Synofzik 2009). It is also sometimes argued that the impact of technology and science-based enhancements is temporary and effortless, whereas conventional interventions have a more stable and long-lasting effect and require more intense effort (Zohny 2014). With reference to Wagner, Robinson and Wiebking (2015), Zohny (2014) refers to the example of cognitive enhancement to illustrate this point. While cognitive enhancing drugs and education both have an impact on the neural pathways of the brain, the impact of education is the result of repetition over many years and is thus more stable and permanent. Similarly, Bostrom and Roache (2011) compare taking a cognitive enhancing drug versus the years of time and resources required to pursue further education. Zohny (2014), however, argues that this distinction is not convincing as the effects of many science-based interventions are not transient and may become increasingly permanent as the relevant technology develops. The changes occasioned by traditional interventions, such as exercise and diet, are also not necessarily permanent. Science-based interventions also do not necessarily require less hard work. For example, the student who takes a drug to increase concentration still has to study for the examination and taking a drug will not on its own lead

to better academic performance (Zohny 2014). Whilst Zohny (2014) acknowledges that considerations of transience and effort may be morally relevant in the conceptualisation of what constitutes a good life, these considerations are not unique to science-based interventions. Zohny (2014, 125) notes:

> For instance, we can ask questions about the health safety of intensive study, the stress and sedentary lifestyle it entails being issues of growing health concern. Also, education can change people in profound, irreversible and often rapid ways, and hence it may also raise questions related to authenticity and societal values. In fact, reading a single book can have profound and irreversible effects on a person. More broadly, how we regulate education, access to nutrition, and healthcare – all things that can have life-changing enhancing effects on individuals – has significant implications for fairness and distributive justice.

It is also compatible with a welfarist approach to acknowledge that means may sometimes matter morally for reasons of justice. For example, Brock (1998, 58) states that: "In many valued human activities, the means of acquiring the capacities required for the activity are a part of the very definition of the activity, and transforming them transforms, and can devalue, the activity itself." Taking performance enhancing drugs to improve athletic performance is a typical example of such an activity, as it runs afoul of society's understanding of what sport is about. It is not just the final performance that one admires and values, but also the means by which the athlete gained the capacity to compete on a professional level (Brock 1998). Similarly, some argue that by failing to distinguish between technology-based and more traditional interventions, a welfarist approach risks trying to solve social problems via biotechnological means (Juengst 1998). Juengst (1998, 43) notes that "if criteria drawn from other spheres of experience seem like better measures for improvement than medical measures, then the intervention in question should probably count as an enhancement that goes beyond medicine's domain of expertise" and, as such, "biomedicine should restrict its ambitions to the sphere of bodily dynamics, which it knows something about, and leave the sphere of social dynamics in the hands of the other human values specialists: parents, educators, preachers, counselors, accountants, and coaches."

It should again be emphasised that a welfarist approach provides a definition of enhancement, but does not resolve the question of whether or not the specific intervention should be permitted. The means used to achieve the change in function does not matter for purposes of

defining an intervention as an enhancement; however, it does not follow that all means will be normatively equivalent in terms of a welfarist approach (Earp et al. 2014). It may thus be compatible with a welfarist approach to decide that a problem is better left addressed via social engineering or a change in environmental conditions, rather than biomedically (Earp et al. 2014). Although wellbeing can be improved in a myriad of ways, including altering the natural or social environment or human biology, these mechanisms typically all act on the same phenotype (Sandberg 2011). As such, it is rational to select the intervention that will be the most effective in increasing wellbeing in the circumstances, having regard to their relative strengths, weaknesses and cost-effectiveness, rather than just automatically excluding biotechnological means as morally suspect (Sandberg 2011). In this regard, one may prefer social means above biotechnological interventions for reasons of safety, success rate, resource constraints, relative benefit and so forth (Sandberg and Savulescu 2011). For example, someone diagnosed with social anxiety disorder may be treated with medication, therapy or a change in career or lifestyle – none of which, in the absence of more information about the patient's specific circumstances, can be identified as the obvious preferred treatment modality (Roache and Savulescu 2018). Roache and Savulescu (2018) note that, to this extent, the welfarist approach widens the range of possible treatment modalities for psychological disorders, thereby enhancing patient choice and autonomy.

Savulescu et al. (2011) note that redirecting the enhancement debate towards an understanding of the good life will lead to more productive ethical discussion. Critics of enhancement are not truly opposed to enhancement per se, but instead have a mistaken normative understanding of what constitutes wellbeing (Savulescu et al. 2011). Similarly, much of the criticism against enhancement is actually directed against contemporary culture, rather than being genuine attempts at evaluating the moral status of different interventions (Sandberg 2011). Bioethicists may thus be better served by refocusing the debate and examining the ends of enhancement (Sandberg 2011). Some, however, argue that a welfarist approach relies too heavily on contested notions of wellbeing and the good life, which are too subjective (Beck and Stroop 2015; Landeweerd 2011; Zohny 2014). There are various accounts of wellbeing and not all of them are compatible. One's preferred account of wellbeing will determine one's understanding of enhancement. For example, Beck and Stroop (2015) note that one's moral evaluation of mood enhancement largely depends on one's conception of wellbeing. Many who oppose mood enhancement argue that it produces a false sense of happiness and that true wellbeing cannot simply be reduced to good mood (Beck and Stroop 2015). Beck and Stroop (2015, 127) note

that the "fraudulent happiness" charge is based on an objective list account of wellbeing and the rejection of a purely hedonistic understanding of the good life. Zohny (2014) counters this criticism by pointing out that although there are many divergent concepts of health, this has not presented an insurmountable obstacle to clinical decision-making. Furthermore, whilst there may be some controversial cases, most interventions will qualify as enhancements in terms of the main theories of wellbeing. Zohny (2014, 126) notes:

> There is a reason for this: while the main theories of well-being – hedonism, desire-satisfaction, and objective list theories – offer conflicting accounts of the nature of well-being, they nevertheless converge to a large extent on the things that can make a life go better or worse. In fact, at least for hedonism and desire-satisfaction, their aim is to converge. Consider things like accomplishment, friendship, autonomy, and knowledge. Hedonism and desire-satisfaction theories typically hold these as 'good' because, for the most people, they give us pleasure or satisfy our desires. Objective list theories in turn tend to recognise the value of pleasure and typically hold that informed desires often reflect what is independently good.

It should also be noted that all discussions about enhancement, even when it is not explicitly stated, already revolve around some idea of what a good life entails. As Hofmann (2017, 6) notes, even just "setting limits to 'normal' and providing cut-off values for 'natural functioning' involves some evaluation of 'the good life,' and hence, of moral values". One cannot escape these discussions and although wellbeing may be a contentious concept, no plausible ethical theory can exclude it from its ambit (Zohny 2016).

2.4 Conclusion

This chapter highlighted various conceptual difficulties associated with the strict treatment-enhancement distinction or not-medicine approach. The difficulties are so profound that some have even argued that the distinction "often seems in danger of evaporating entirely under its conceptual critiques" (Juengst 1997, 126). The not-medicine approach, based on a strict distinction between treatment and enhancement, seems obsolete and, as discussed earlier, there are difficulties with its practical significance and normative force. Practically, it is impossible to define species-typical functioning with any real precision. Furthermore, by defining enhancement with reference to species-typical functioning, the implication is that this standard

per se constitutes a morally relevant reference point, despite the fact that it has been shown to be arbitrary (Zohny 2016). Zohny (2016, 2) notes:

> [W]ithout explicating how these reference points or boundaries are relevant to well-being, or at least some other uncontroversial value, their usage in characterising enhancement and disability reflects an arbitrarily moralised stance on the matter. On the other hand, what is the moral relevance of people leading a better or worse life? Some would say that is all that morally matters, or at least, it is certainly a cornerstone of what is relevant to ethics.

Although concepts such as treatment, enhancement, disease and normality cannot perform the required normative work, it does not follow that these concepts are irrelevant. As discussed above with reference to Gyngell and Selgelid (2016), these concepts may sometimes draw one's attention to morally relevant spectra. Similarly, it was illustrated with reference to Synofzik (2009) that these concepts, as purely descriptive terms, may also be helpful for purposes of pointing out potentially problematic applications of certain interventions. However, by embracing a welfarist and inherently normative understanding of enhancement, the focus is shifted to what is truly relevant, namely human wellbeing. A welfarist approach forces one to grapple with the real underlying ethical issues, rather than trying to sidestep these issues by drawing arbitrary lines between treatment and enhancement. It forces one to think deeply about whether specific interventions are actually enhancements, or phrased differently, whether they truly improve wellbeing. It also forces one to consider why enhancements may be morally undesirable, notwithstanding their positive effect on wellbeing. As Zohny (2016, 2) notes, a welfarist approach provides "prima facie reasons to address conditions that are making an individual's life worse, as well as helping us understand why enhanced states can be desirable to begin with."

Having established that it is not desirable or possible to draw a clear distinction between medical treatments and enhancements, questions inevitably arise regarding medicine's relationship vis-à-vis enhancement. It is important to define medicine's role in relation to enhancement, as many of these interventions are sufficiently complex to require the technical skills of healthcare professionals, even though the purpose of the interventions may not be traditionally thought of as therapeutic or medical (Mitchell et al. 2007; Veatch 2001). Some of these interventions may be clearly morally reprehensible, whilst others hold enormous societal and personal benefits, especially in the context of an increase in wellbeing (Veatch 2001).

Either way, they all require the specialised skill of healthcare professionals, notwithstanding the fact that they do not promote health in the traditional sense of the word (Veatch 2001). Mitchell et al. (2007, 111) note that it is against this background that one should examine the question of medicine's relationship with biotechnology:

> To what extent should medicine and physicians become the vehicles for individual and societal access to technobiology's promised benefits? In the realm of disease treatment, there is little question that physicians are the logical and necessary agents. But what about the 'enhancement' of individual and social life, or the promises of perfection of human nature itself, beyond therapy?

The aforementioned question is explored in the next chapter.

Chapter 3
Enhancement and the Traditional Goals of Medicine

3.1 Introduction

Assuming that enhancements are defined as interventions aimed at increasing wellbeing, and that medical treatment is but a subclass of enhancement, the question arises whether enhancement is reconcilable with the traditional ends and values of medicine? All medical treatments are enhancements in terms of a welfarist approach, but all enhancements are not obviously medical or therapeutic in the traditional sense of the word. Furthermore, it may not always be possible to clearly differentiate between the two. In this regard, Varelius (2006, 121) notes: "It is plausible that what possible courses of action patients may legitimately expect their physicians to take is ultimately determined by what medicine as a profession is supposed to do." Although Varelius (2006) is referring to physician-assisted dying and euthanasia here, the comments also hold true for medicine's role in respect of mood enhancement technologies. Arguments against enhancement in the medical profession are often rooted in conceptions of the ends of medicine. Medicine is a profession, and, unlike purely economic enterprises, it is traditionally regarded as having an internal end or telos (Scripko 2010). It is often argued that promoting wellbeing or happiness is not a legitimate end of medicine. Physicians should concern themselves with improvements in health, not other aspects of their patients' lives such as happiness or the relief of existential angst (Schermer 2013). Whether or not mood enhancement may be described as a legitimate end of medicine thus depends on one's understanding of key concepts such as health and disease.

If mood enhancement cannot be brought under the umbrella of the traditional ends of medicine, for example as a form of health promotion, the question arises: "Should medicine in the future transgress its classic moral bounds, that is avoidance of premature death, preservation of life, prevention of disease and injury, promotion and maintenance of health, relief of pain and suffering, avoidance of harm, into the novel moral bound of promoting well-being?" (Berghmans et al. 2011, 158). Parens (1998, 10) refers to so-called "schmocters". Parens (1998) asks one to imagine a world where "schmoctors" specialise in the use of biotechnologies for enhancement purposes. Schmocters do not practise medicine, and patients, or rather consumers, pay for these services out of pocket. For schmoctors, whether or not a particular intervention undermines the proper ends of medicine, and thus constitutes a form of malpractice, is morally

irrelevant. Mitchell et al. (2007) thus ask whether medicine should be redesigned to accommodate biotechnology, or whether a separate profession ("schmoctors") would have to be created for these purposes?

In this chapter, the traditional ends of medicine are explored. Specific focus is placed on the meaning of health and the question whether health, broadly understood, includes the pursuit of wellbeing via biotechnology. This question will be answered in the affirmative with reference to a positive and normatively broad concept of health. Nevertheless, it will further be argued that the traditional ends of medicine are not static and that they may be developed to include new goals. In this regard, it will be argued that even if mood enhancement is irreconcilable with the existing or traditional ends of medicine (an argument which is rejected), these ends are not static and there are no prima facie reasons why these goals should not be developed to include interventions aimed at mood enhancement.

3.2 The Ends of Medicine Traditionally Conceived

Mitchell et al. (2007) note that historically, medicine was regarded as an art aimed at some particular good in the Aristotelian sense of the word. Medicine as an art was aimed at, and had as its end, the good of the patient. Historically, the ends of medicine have always been to relieve suffering, prevent and treat disease, and to promote health. Mitchell et al. (2007), tracing Hippocratic texts, note that cure was not first mentioned as an end of ancient medicine as a cure to illness was rarely, if ever, possible. It was only much later, when medical knowledge and techniques started to improve, that the cure of disease was acknowledged as an end of medicine. Ancient texts also specifically included a prohibition against the treatment of futile cases. Two additional ends were later added, namely, the need to combine the technically correct with the morally good and the recognition of patient dignity, expressed as a moral right to participate in decisions affecting one's health (Mitchell et al. 2007). In modern medicine, the proximate end of medicine is "a fusion of the technical and the moral, that is, a technically correct and a morally right decision about the good of an individual patient", whereas the ultimate end of medicine is the health of the patient (Mitchell et al. 2007, 117).

Brülde (2001) notes that contemporary bioethical literature lacks many systematic discussions on the goals of medicine and that even the most thorough article on the subject available at the time, namely, The Hastings Center Report, *The Goals of Medicine: Setting New Priorities*

(Allert, Blasszauer, Boyd and Callahan 1996c), was lacking in certain respects. In this regard, in 1993 the Hastings Center initiated a project on the goals of medicine, culminating in the aforementioned report. Ultimately, the working group agreed that, broadly, the goals of medicine are: (a) the prevention of disease and injury and the promotion and maintenance of functional health, (b) the relief of pain and suffering caused by maladies, (c) the care and cure of those with a malady and the care of those who cannot be cured, and (d) the avoidance of premature death and the pursuit of a peaceful death (Allert et al. 1996a). Brülde (2001) notes that if one disregards the means (prevention, cure, etc.) to the respective end goals, the working group essentially agreed that medicine should: (a) promote health, (b) reduce certain kinds of pain and suffering, (c) combat disease and injury, (d) improve the quality of death, and (e) save and prolong life. Brülde (2001) then goes on to show that most of the goals identified by the working group are special instances of more general goals. For example, the promotion of functional health is an instance of a more general goal, namely, the promotion of the patient's functioning as a whole. The promotion of health, understood as the absence of disease, cannot be differentiated from the goal of combating disease. Similarly, if one understands health in terms of wellbeing, the promotion of health is an instance of the broader goal of promoting the patient's quality of life. The relief of pain and suffering also ultimately revolves around the promotion of the patient's quality of life. If one understands disease as a physiological phenomenon, the goal of combating disease is but an instance of the more general goal of promoting normal function. Improving the quality of dying can similarly be described as promoting the patient's quality of life, that is, the quality of the end stage of one's life. Brülde (2001) then notes that the goals of medicine identified by the working group can more coherently be reduced to the following: (a) promotion of functional ability, especially health-related functioning, (b) maintaining or restoring normal function, especially by preventing disease or injury or by curing disease, (c) promoting quality of life, especially by relieving pain and suffering, and (d) saving and prolonging of life, especially to prevent premature death.

The promotion of wellbeing and happiness is rarely explicitly included as part of the traditional ends of medicine, although it could arguably fall under the goal of health promotion or quality of life, broadly understood. In this regard, even if one accepts a very broad definition of medicine, with consensus on its traditional goals, one is still left with the task of giving content to complex terms such as disease and health (Savulescu 2006). Determining the content of the goals of medicine is inextricably linked to one's normative interpretation of these concepts (Buyx 2008). Unfortunately, it is difficult to reconcile the value-neutral scientific concepts of

health and disease, on the one hand, and the various value-laden socially and culturally constructed understandings, on the other (Mitchell et al. 2007). The negative-positive and scientific versus value-laden distinctions have practical implications for the enhancement debate within the context of the ends of medicine. Whereas a positive or value-laden conception of health may be reconcilable with limitless improvements in wellbeing via enhancement technologies, a negative or naturalistic conception of health is limited to restoring loss of function (Bess 2010; Schermer 2013).

3.3 The Concepts of Health and Disease – Naturalism Versus Normativism

There is no universal agreement about the meaning of health. The concept of health and its relationship to disease is notoriously difficult to define. There are two main schools of thought in this regard, namely, naturalistic theories, on the one hand, and normative, value-laden theories, on the other. Naturalistic theories are biostatistical to the extent that health is defined in terms of biological phenomena and standards such as species-typical and normal functioning (Hofmann 2019). For these theorists the concepts of health and disease are "value-free and descriptive in the same sense as the concepts of atom, metal and rain are value-free and descriptive" (Nordenfelt 2007, 5). One may assess a diseased state as undesirable, but the objective scientific description of the state of affairs and its evaluation are conceptually distinct in terms of naturalistic theories (Nordenfelt 2007). Although these theorists acknowledge that health is desirable, and identify value with subjective desires, they ultimately reject an evaluative component to disease (Sade 1995). For example, some undesirable conditions are not diseases (being slightly below average in respect of traits like height, appearance, strength, etc.) and some diseases may sometimes be desirable (sterility, in a world without contraception, might be desirable if the person does not want children) (Boorse 1977).

Some of the most well-known proponents of naturalistic theories are Boorse and Daniels. For Boorse (1997, 4) health "is the absence of disease; disease is only statistically species-subnormal biological part-function; therefore, the classification of human states as healthy or diseased is an objective matter, to be read off the biological facts of nature without need of value judgments." In this sense health is normal functioning, normality being statistical and the functions biological (Boorse 1977). A biostatistical notion of health is therefore very narrow. It is purely negative to the extent that health simply means the absence of disease. Diseases, apart from universal environmental injuries, are internal states that reduce a functional ability

below levels that are typical for the species (Boorse 1977). Functional ability relates to species-typical contributions to survival and reproduction, which are the essential biological goals (Nordenfelt 2007). The crucial concept is function and the extent to which it contributes to survival and reproduction, not wellbeing or human flourishing (Nordenfelt 2007). If one accepts this understanding of health and disease, it seems unlikely that enhancement could be included as part of the traditional goals of medicine, for example, as a form of maintenance or promotion of health. As Sabin and Daniels (1994, 10) note, in terms of a naturalistic theory of health:

> [T]he central purpose of health care is to maintain, restore, or compensate for the restricted opportunity and loss of function caused by disease and disability. Successful health care restores people to the range of capabilities they would have had without the pathological condition or prevents further deterioration.

As noted in Chapter 2 under the discussion of species-typical or normal functioning, naturalistic theories run into various conceptual difficulties. In this regard, it was pointed out that what is considered normal or typical of the human species differs across time and populations, or even just within a single person's own lifetime (Bess 2010; Bostrom and Roache 2007). The approach is also arbitrary and may sometimes prevent society from recognising and responding to its responsibility to relieve suffering. In this regard, the case of Billy and Johnny illustrates how naturalistic theories of health may permit society to treat relevantly similar cases differently (Daniels 2000; Parens 1998). Furthermore, naturalistic theories of health exclude many accepted practices from the sphere of medicine, such as preventative medicine, cosmetic surgery and reproductive health. With reference to Kovács (1998), it was illustrated that Boorse's concept of health is based on a Cartesian notion of organisms as machines, which conceives diseased organisms as defective machines that differ from their original design. This mechanistic understanding of health fails to consider that organisms and their environments should be considered holistically and that the health or disease of living organisms is inextricably linked to their adaptation to the environment (Kovács 1998). Lastly, naturalistic theories overemphasise the idea of equality of opportunity and restoration of normal function as the moral basis of a right to healthcare, whilst neglecting considerations of compassion, beneficence, the relief of suffering and so forth (Harris 2009).

As opposed to naturalistic theories, some philosophers embrace value-laden concepts of health and disease. In terms of these normative theories, a determination of health has an evaluative component (Kovács 1998). The determination of health is thus not limited to an objective scientific assessment of function and, instead, requires a positive evaluation of the bodily and mental state of the person (Nordenfelt 2007). Health and disease are thus related to values and defining a certain state of affairs as healthy or diseased requires a normative assessment of concepts such as the good life, and what is desirable and undesirable (Sade 1995). Normative theories can, in turn, be divided into subjectivist and objectivist theories, depending on how the notion of value is conceptualised. Sade (1995, 514–515) explains the distinction as follows:

> The pertinent axiological distinction can be clarified by considering the question posed by Socrates to Euthyphro: is a goal good (or desirable) because it is desired, or is it desired because it is good? Considering the goal good because it is desired gives priority to the desire, and allows for no standard by which to judge the desire's appropriateness or goodness. Here value is subjectively based. The second alternative gives primacy to the goodness of the goal, the desire for it being appropriate insofar as the goal is good. In this latter case the goal, as given, provides an objective basis for the determination of value. Using this distinction, one could say that conceptualizations of health and disease which are based on the view that desiring, as a subjective state, is prior to the desirability (or goodness) of a goal can be classified as subjectivist theories, while those giving primacy to the goal can be classified as objectivist theories.

Kovács (1998) notes that objectivist normative theories of health are problematic as all values can ultimately be deduced to desires or wants. Values can only be objective in an intersubjective sense, in other words, something can be an objective value in the sense that most people desire it (Kovács 1998). However, objectivist normative theories of health classify values derived from intersubjective desires as subjective. Kovács (1998, 36) notes that these theories thus "start with the premise, that values can be based on more solid a ground than subjective (or intersubjective) desire." This assumption is highly unlikely from a secular perspective and, philosophically, a subjectivist normative account of health and disease is more coherent (Kovács 1998).

3.4 In Support of a Normative (Subjectivist) Account of Health

Rather than objective temporal facts, the concepts of health and disease are cultural and historical values (Gracia 1999). Gracia (1999) illustrates this by analysing the historical development of the concepts of health and disease throughout Western history. Gracia (1999) notes that at least three different values have been used to define health and disease. In primitive cultures health was seen as a state of grace and disease as its opposite, that is, a state of disgrace. Sin against God was regarded as the cause of all negative physical conditions, including illness, pain, suffering and death. Health was thus a given or a sign of God's grace, whereas disease and pain were signs of debt, disgrace and sin. The understanding of disease as a moral failure only began to dissipate under the influence of Greek culture after the sixth century B.C. (Gracia 1999). During the ancient period health and disease were understood in terms of nature – health being a natural state of order and disease an unnatural state of disorder (Gracia 1999). During the ancient period itself health was also understood in different ways. For example, the Pythagoreans conceived of health as a balance in the context of food, activity and environment, whereas the Hippocratic physicians regarded health as a balance between the four humors (Mitchell et al. 2007). It was only during the modern period that both health and disease came to be seen as natural (Gracia 1999). Pain and disease were still seen as undesirable, but this negativity was now rooted in the idea of unhappiness and a lack of wellbeing, rather than disgrace or unnaturalness. One of the consequences of this new perspective was that health and disease, like happiness and unhappiness, came to be seen as value-laden concepts, rather than facts (Gracia 1999). Based on a value-laden concept of health, (Gracia 1999, 94) thus defines health as follows:

> [T]he capacity of achieving one's own project of life, or of developing a personal set of values. We consider that a person is ill when he or she is incapable of achieving the most important of life's goals; when one cannot make with the body the things that he or she considers important. This is why I have many times defined health as the capacity of appropriating one's body, that is, as the capacity of making with the body the things needed to fulfil one's life project.

In this sense disease is understood as a biological phenomenon, but health is more than just biological. Gracia (1999, 95) states that health is not just "biological integrity, but a biographical status directly related to one's values and one's own idea of happiness". This is why Gracia (1999) regards health as a moral, rather than a biological enterprise. This is a wide

and subjective definition of health, which depends on the patient's vital goals and life project. This definition allows for quite a bit of subjectivity in defining health and, in turn, the ends of medicine (Schermer 2013). If happiness is one of the patient's life goals, which is surely the case for most people, then a medical intervention which increases happiness will also promote health (Schermer 2013). The World Health Organisation (1946) defines health as "a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity." Gracia (1999) submits that his value-laden understanding of health is the only possible interpretation of the positive definition endorsed by the World Health Organisation.

The World Health Organisation's account of health is similar to that of Nordenfelt, who provides a comprehensive normative (subjectivist) account of health. Nordenfelt (1998, 6) notes that: "Health must be understood as a bodily and mental state of a person which is something over and above the absence of diseases and infirmities." For Nordenfelt (2007), health is conceptually related to the concept of happiness and quality of life, and is instrumentally valuable to the extent that it contributes to quality of life. Nordenfelt (1998, 6) notes: "A person is in a state of complete health if, and only if, this person is in a physical and mental state which is such that he or she is able to realise all his or her vital goals given a set of accepted circumstances." In this context, vital goals refer to a person's most essential goals in life and health is a state of affairs which is required for a person's minimal long-term happiness (Nordenfelt 2004). According to Nordenfelt (2004), although survival is a necessary condition for long-term happiness, persons have other goals besides survival that are required to be totally healthy. For Nordentfelt (2004), a person is unhealthy if his or her ability to realise their vital goals is reduced, notwithstanding the fact that they do not suffer from any pathology in the biostatistical sense of the word. Furthermore, the reason for such a disability could be a problem of an existential nature (Nordenfelt 2004).

If one accepts a normative (subjectivist) understanding of health, most enhancements will be reconcilable with the ends of medicine (Schermer 2013). As Schermer (2013, 438–439) notes: "It is therefore not self-evident that the goals of medicine exclude the promotion of happiness; on the contrary, the quality of life and the well-being of the patient are central values in medicine, and definitions of health that go beyond strict biological criteria appear to allow for at least some 'enhancements'." Hofmann (2019) notes that human enhancement may even eventually change the norms and values in terms of which conceptions of health are shaped.

This is not problematic, provided that these new norms and values are not self-undermining (Hofmann 2019).

3.5 Defining and Developing the Ends and Values of Medicine

Even if one assumes that enhancement cannot be incorporated into medicine's set of traditional ends, it does not follow that these goals are static or that the ends of medicine should not evolve to include enhancement. An important question is who gets to define how the ends and values of medicine should evolve in response to technological and societal changes – society or the profession? (Schermer 2013). Phrased differently, the question is "whether it is possible, in theory, for someone who wanted to know the proper morality for the practice of one of the health or medical professions to establish that morality by analysis of the concepts of health or medicine?" (Veatch 2001, 625). There are generally two opposing schools of thought regarding the nature of medicine and how its ends and values are defined, namely an inherentist or essentialist account, on the one hand, and a social construction view, on the other (Allert, Blasszauer, Boyd and Callahan 1996b; Pellegrino 1999). This is somewhat similar to another approach to defining the ends of medicine in bioethical literature, which defines the ends of medicine in either objective or subjective terms. In this regard, some argue that the ends of medicine can be objectively identified and include the traditional goals such as prevention of disease and injury, promotion and maintenance of health, relief of pain and suffering and so forth (Varelius 2006). Conversely, other bioethicists argue that patient autonomy is the ultimate value and, as such, the ends of medicine are subjectively defined and synonymous with the autonomous decisions of the individual patient (Varelius 2006).

In terms of an inherentist account the ends and values of medicine are intrinsic to the field and defined in terms of its response to the universal experience of illness and its nature as a specific kind of activity (Allert et al. 1996b; Pellegrino 1999). In terms of this account medicine is defined in terms of its inherent ends, telos or essence (Pellegrino 1999). To this extent Pellegrino (1999) makes a distinction between ends and goals, the former being the constitutive essence of medicine. Pellegrino (1999, 62), referring to ancient Hippocratic texts, states that the ends of medicine are "to heal, help, care and cure, to prevent illness, and cultivate health." Similarly, Pellegrino and Thomasma (1981, 26) describe medicine as "an activity whose essence appears to lie in the clinical event, which demands that scientific and other knowledge be particularised in the lived reality, of a particular human, for the purpose of attaining health

or curing illness, through the direct manipulation of the body, and in a value-laden decision matrix". Goals, on the other hand, are not tied to the essence or telos of medicine and simply represent whatever uses medical science is put to (Pellegrino 1999). The goals of medicine may, or may not, align with its internal ends at any given time (Pellegrino 1999). For example, clearly the goals of medicine as understood by Nazi physicians were not aligned with the ends of medicine. Physicians may thus participate in practices for other purposes, for example cosmetic surgery furthers the personal happiness of the patient, and the administration of capital punishment serves the criminal justice system (Veatch 2001). However, these activities do not necessarily serve the ends of medicine, that is, the promotion of health (Veatch 2001). Pellegrino (2001, 563) describes the inherentist position as follows:

> Medicine exists because being ill and being healed are universal human experiences, not because society has created medicine as a practice. Rather than a social construct, the nature of medicine, its internal goods and virtues, are defined by the ends of medicine itself, and therefore, ontologically internal from the outset.

Veatch (2001) notes how this account is reminiscent of MacIntyre's idea of practices. For MacIntyre (1981, 175), a practice is "any coherent and complex form of socially established cooperative human activity through which goods internal to that form of activity are realized in the course of trying to achieve those standards of excellence which are appropriate to, and partially definitive of, that form of activity." Internal goods, as opposed to external goods, are not a contingent result of the practice and only emanate from successfully performing the practice (MacIntyre 1981; Veatch 2001). For example, the social status and financial reward associated with the practice of medicine are some of its external goods, whereas the internal goods of medicine are derived from its essence or telos (Veatch 2001). Veatch (2001, 622) explains how MacIntyre's notion of practices has been adopted by some bioethicists who support an inherentist or essentialist account of medicine:

> They developed the claim that the proper morality for the practice of medicine can be determined by analysis of the end or purpose of the practice of medicine from which one can determine the morality internal to the practice. Stated simply, the end of medicine is the health of the patient so any activity consistent with that end is condoned by the morality of the practice of medicine while activities inconsistent with that end (or not pursued for the purpose of promoting the health of the patient), so they claim, are inconsistent or at least `external' to it.

An essentialist account is attractive to the extent that it offers a basis for condemning physicians who misuse medicine for society's nefarious goals, for example, the use of medicine in unethical experiments during the Nazi regime (Allert et al. 1996; Veatch 2001). In this sense, medicine's internal ends should serve as a kind of moral compass for physicians, which should guide them regardless of the place, culture or time they find themselves in. Liberals might find this account attractive as it can be used to argue against physician involvement in capital punishment or military uses, whilst conservatives might argue that abortion and euthanasia fall outside the scope of medicine's internal ends (Veatch 2001). It also provides a basis for condemning physicians who participate in the economic ends of managed healthcare (Veatch 2001). Those opposed to physician involvement in enhancement may also find an essentialist account attractive and will no doubt argue that enhancement falls beyond the scope of medicine's internal ends, as the concept of health differs from mere wish fulfilment or personal happiness.

As opposed to an inherentist account, a social construction view holds that medicine does not have any inherent values or ends and that it differs depending on time period, place and culture (Allert et al. 1996b; Pellegrino 1999). Gracia (1999, 88) notes that medicine is a "diverse set of ideas, methods, procedures and practices that has been changing continuously from the beginning of human culture until now." Allert et al. (1996b, S7) note:

> While it is true that the care of the sick constitutes a consistent historical and cultural thread, as does the centrality of the doctor-patient relationship, so varied is the interpretation of disease, illness, and sickness, and so complex the response to them that it is difficult to pin down a meaningful set of inherent values and convictions. Medicine is thus best thought of as an evolving fund of knowledge and a changing range of clinical practices that have no fixed essence. Its knowledge and its practices will reflect the times and societies of which it is a part, and they will and ought to be put to whatever use society sees fit, subject only to the same constraints that mark other social institutions.

An essentialist view assumes that medicine can be defined independently of society's interpretation thereof (Pellegrino 1999). Pellegrino (1999, 57) explains that this view is predicated on the idea of "a real definition, a grasp of some extramental reality from which we abstract that which makes a thing what it is and separates it from all those other characteristics it possesses: its so-called accidents, or that which is not crucial to what a thing is". Some oppose

an essentialist position on the basis that real definitions of this nature are illusionary and that any similarities between the real world and the language used to describe it, are nothing but a "matter of grammatical articulation" (Pellegrino 1999, 57). In this regard, Pellegrino (1999, 57) refers to Wittgenstein's rejection of real definitions and the idea that "essence is expressed as grammar" and that, as such, any kind of Aristotelian idea of an essence to things, is impossible. On this view medicine does not have any intrinsic ends and is instead defined through a process of social construction, where its ends are defined with refence to whatever aims it is used towards (Pellegrino 1999).

Medicine is undeniably scientifically and socially malleable as physicians and patients are a part of society and, to this extent, one cannot realistically separate the two (Allert et al. 1996b; Schermer 2013). Veatch (2001, 628) claims that: "In order to know what the ends of medicine are, one must first know what the ends of living and social functioning are and that this, in turn, requires turning outside of any conception of medicine to determine." For example, medicine underwent a fundamental change in values after the atrocities of World War II when a shift occurred from a paternalistic approach to an increased focus on patient autonomy and informed consent (Allert et al. 1996b). Veatch (2001, 639) notes that: "Morality, by its very nature, cannot be 'internal to the practice of medicine', because the concept of medicine and its ends are, in turn, inevitably derived from the ends of the human as seen – imperfectly – by the broader society." It is also important to keep in mind that a hermetically sealed internal morality to medicine might be problematic if medicine's mores are, or become, immoral. If the goals and values internal to a practice determine what is right and wrong, it would make it difficult for society to question those values (Juth 2011). Furthermore, given the malleability and open-ended nature of the concepts of health and disease, the ends of medicine surely cannot be described as a static set of criteria (Schermer 2013). Schermer (2013, 439) notes that, instead, the ends of medicine "form a field of normative discussion in which notions like health, disease and well-being or quality of life are central concepts."

An inherentist account arguably also places arbitrary limits on the ends of medicine and is difficult to reconcile with patient autonomy, which is a central value in medical ethics. In this regard, in terms of a subjectivist account, patient autonomy is central when defining the ends of medicine as it has instrumental value as a vehicle for the promotion of the patient's wellbeing and his or her conception of the good life (Varelius 2006). As Juth (2011, 45) notes: "Even if one agrees that the internal goals of medicine determine what are the proper boundaries of

medicine and which medical measures should be used, it is increasingly difficult to say that enhancement for autonomy-promoting purposes cannot be within the proper bounds of medicine, since autonomy is increasingly emphasized as a goal in its own right within health care in general." The fact that autonomy is increasingly being seen as an independent goal in medicine is most evident in the fields of genetics, assisted reproduction and prenatal diagnosis (Juth 2011). For example, genetic counsellors often cite the promotion of autonomy as the main motivation for their work (Juth 2011; Wertz and Fletcher 1988).

It is submitted that the most plausible account of the interaction between the values and ends of medicine and those of society is therefore likely somewhere in between an inherentist account, on the one hand, and a social constructionist account, on the other. Medicine and society should be in a continuous open dialogue with one another in order to identify their respective rights and duties, but medicine's starting point should be its traditional values and history (Allert et al. 1996b). Although there is robust interaction between professional ethics and common morality, physicians have a duty to bring their own experiences and core values to the discussion (Schermer 2013). As Allert et al. (1996b, S7) note: "Medicine will, inevitably, be influenced by the values and aims of the societies in which it finds itself, but this does not mean that its own values can or ought to be reduced to them." This will require a balancing act between the moral wisdom of the past, on the one hand, and necessary adaptation to technology and societal demands, on the other (Miller and Brody 2001). Allert et al. (1996b, S8) state:

> A reasonable middle ground, then, is that both perspectives are true: medicine has essential ends, shaped by more or less universal ideals and kinds of historical practices, but its knowledge and skills also lend themselves to a significant degree of social construction. It is a reduction of the former to the latter that is the real danger, not holding both in a fruitful tension with each other.

Within this dialogue between society and medicine, a framework would have to be devised in terms of which new goals for medicine may be located. Brülde (2001) suggests a normative framework for the goals of medicine which seems, on the face of it, to be reconcilable with the inclusion of the promotion of wellbeing (including via mood enhancement technologies) as part of an expanded set of goals. In this regard, Brülde (2001), after having identified the irreducible goals of medicine, observes that none of these traditional goals are valid per se. They all need to be qualified in some way. In this regard, Brülde (2001, 6) notes:

> The only two goals that have final value for the patient, i.e. that are good as ends rather than as means, are high quality of life and a long life. Or more precisely, what has final value for the patient is to live a life that is both good and long. (The length of a life only contributes to the final value of this life if it is a life worth living.) All the other aims, e.g. good functioning, are good for the patient because they contribute to these values, i.e. their value is instrumental rather than final, they are good as means rather than as ends. This suggests that medicine should only try to realize these goals when they are expected to have positive effects on quality of life and/or length of life.

According to this framework the ultimate goals of medicine are to promote quality of life and to increase the length of life, provided that the patient also considers it a life worth living (Brülde 2001). All other present (and possible future) goals of medicine are, and should be, instrumental to achieving these ultimate goals (Brülde 2001). For example, medicine should only aim at restoring functioning when this is expected to positively affect the patient's quality of life. If one understands quality of life as wellbeing, or the value that a patient attaches to his or her own life, enhancement as a goal of medicine may fit well within this normative framework (Brülde 2001). Under these circumstances medicine may be legitimately aimed at treating a condition, irrespective of whether or not such a condition is classifiable as a disease or biological pathology (Roache and Savulescu 2018). In the context of psychiatry this means that certain classes of psychological disadvantage, which do not qualify as "hard psychiatric diseases", may nevertheless be treated medically in order to improve wellbeing (Roache and Savulaecu 2018, 248).

3.6 Conclusion

In this chapter it was illustrated that enhancement, understood in terms of a welfarist approach, appears to be reconcilable with the traditional ends of medicine, especially the promotion of health. In this regard, it was argued that health should be understood broadly as a positive value-laden concept, which includes the promotion of human wellbeing. Even if this is not so, there is no obvious reason why the internal ends of medicine should not evolve to respond to society's demand for enhancement technologies to the extent that these technologies promote wellbeing. In this regard, it was illustrated that the ends of medicine are not static, and medicine's knowledge and its practices will reflect the times and societies of which it is a part. It furthermore seems morally acceptable to include enhancement as a new goal of medicine,

considering how the traditional goals of medicine are related to one another in terms of a unified normative framework where quality of life plays a central role.

Although it was concluded in this chapter that enhancement technologies are prima facie compatible with the traditional ends of medicine or, at the least, that there are no obvious reasons why these goals should not be developed to include certain forms of enhancement, there may nevertheless be good ethical reasons for prohibiting physicians from performing certain enhancement interventions in specific circumstances. This argument will be further explored in the next chapter with reference to the traditional principles of biomedical ethics, specifically in the context of mood enhancement.

Chapter 4
Medical Ethics and Mood Enhancement

4.1 Introduction

Although mood enhancement, like enhancement in general, is not unethical or irreconcilable with the goals of medicine, there may nevertheless be good reasons for prohibiting physicians from providing mood enhancing technologies. In this regard, the principles of biomedical ethics – autonomy, beneficence, non-maleficence and justice – should be used as a guide to determine whether physicians may be permitted to perform particular enhancing interventions on a case-by-case basis. When prescribing mood enhancers, physicians are necessarily working with an individual patient. These decisions therefore need to be individualised and sensitive to the context and circumstances (Synofzik 2009). Instead of abstract and controversial concepts, physicians require clear ethical principles, such as those widely accepted within a principlist framework, when making individual decisions about requests for mood enhancement. Synofzik (2009, 96) notes that physicians need "clear ethical criteria that can be operationalized to interpret empirical evidence, that are clinically easily applicable and that form a basis for gradual recommendations not on a general level, but on the level of the individual". In the context of mood enhancement and the physician-patient relationship, bioethical concerns primarily relate to possible violations of the principles of autonomy, beneficence and non-maleficence. The principle of justice, which requires fair distribution of resources, will play a lesser role in the context of the individual physician-patient relationship. In this chapter, certain broad concerns regarding mood enhancement will thus be discussed within a principlist framework. Although none of these concerns are prohibitive, it will be argued that physicians should nevertheless be aware of these potential ethical pitfalls and should approach requests for mood enhancements with appropriate caution.

4.2 Autonomy

The word "autonomy" comes from the Greek words *autos* and *nomos*, directly translated as self-rule, governance or law (Jennings 2007). To live autonomously means to govern one's own life in terms of one's own plans, desires, values and ideas of the good life, free from controlling interference by third parties (Beauchamp and Childress 2013; Jennings 2007).

Respect for autonomy thus entails respecting the rights of others to make their own decisions, and to live their lives in a way that is compatible with their deeply held personal values and beliefs (Beauchamp and Childress 2013). Autonomous agents are generally considered to have the capacities required for self-governance, which include the ability to formulate preferences, understand information, appreciate one's situation and apply reason (Beauchamp and Childress 2013). Juth (2011) notes that one can discern three components from this general characterisation of autonomy, namely, desire or value, decision and action. No one can ever act fully autonomously and the degree of autonomy will be determined by all of these components (Juth 2011). Although autonomy has traditionally been conceived of as giving rise to a negative right not to have one's autonomous choices restricted, discussions surrounding autonomy and mood enhancement typically do not revolve around autonomy as a right. Instead, most of the literature is concerned with the manner in which mood enhancement may either pose a threat to patient autonomy or increase autonomy by enabling patients to lead more autonomous lives (Juth 2011).

4.2.1 Autonomy and Authenticity

Fears around autonomy and mood enhancement are typically couched in terms of concerns regarding authenticity (Berghmans et al. 2011; Juth 2011). Whereas authenticity generally refers to the idea of being true to oneself, it has a unique meaning in the context of autonomy (Juth 2011). In this context, questions surrounding authenticity relate to "the extent to which one's will really is one's own and, in effect, the extent to which one can succeed in really 'being oneself' or 'becoming oneself,' since autonomy is about living in accordance with one's *own* will" (Juth 2011, 40). Similarly, to live authentically requires self-discovery and self-understanding (Berghmans et al. 2011). Hyun (2001, 195) explains the relationship between autonomy and authenticity as follows:

> [A] carefully articulated notion of authenticity must play a central role in explanations of how persons can be autonomous in a global sense. Unlike local autonomy, which refers to a person's specific actions in particular situations, global autonomy is a richer, broader notion that expresses a person's ability to make important decisions about his life according to his own values and goals.

Elliott (1998, 181) explicates the concept of authenticity in the context of mood enhancement with reference to an "ethic of authenticity". According to Elliott (1998), an ethic of authenticity has two features. Firstly, most people see their lives as a project or planned undertaking for which they are responsible and over which they, for the most part, have some control. This means that whether or not one's life has meaning depends on how one lives it. Secondly, there is no one correct answer as to how one should live. As such, determining how one should live requires introspection, being true to one's authentic self and leading one's own life.

It is often argued that if mood enhancing technologies alter one's personality, even for the better, that might be problematic because it will no longer be one's *own* personality (Berghmans et al. 2011; Elliott 1998). Some fear that mood enhancement may radically alter one's personal identity and thus result in leading a life that is not truly one's own (Berghmans et al. 2011; Elliott 1998). Juth (2011) notes that this concern can be interpreted in three ways. Firstly, the concern is perhaps that mood enhancement might change numerical identity. A change to numerical identity would mean that one's former self will cease to exist post-enhancement (De Grazia 2005a). The second concern is that mood enhancement leads to feelings of wellbeing or happiness that are somehow inappropriate. In this regard, Juth (2011) refers to Kass's critique that pharmacologically induced happiness, as opposed to, for argument's sake, happiness induced by the arrival of a loved one, is unintelligible from a human perspective as one's mood would be altered without one understanding why (Kass 2003). Lastly, the concern may be that mood enhancement will so radically alter the person that his or her life plans, values and desires will be rendered completely different to those he or she had prior to the mood enhancing intervention. This concern seems to speak to narrative identity. Each of these concerns will be discussed below, as well as the related worry that mood enhancers might undermine authenticity by undermining one's capacity for developing self-knowledge and understanding.

4.2.1.1 Changes in Numerical Identity

Numerical identity is best explained by comparing it to qualitative identity. To be numerically identical means to be one and the same being, rather than two separate beings, whereas being qualitatively identical means to be exactly similar (Berghmans et al. 2011; De Grazia 2005a). For example, identical twins may be qualitatively identical, but they can never be numerically identical as twins are two separate persons (Berghmans et al. 2011l; De Grazia 2005b).

Numerical identity thus provides conditions for a thing to continue existing despite undergoing changes and relates to "the relationship an entity has to itself over time in being one and the same entity" (De Grazia 2005a, 264). According to the psychological view, one of the conditions for retaining the same numerical identity is psychological continuity (De Grazia 2005a). The psychological view has historical roots in the personal identity theories of John Locke and enjoyed prominence in the late 20th century, mostly by virtue of Derek Parfit's work (De Grazia 2005b). According to most psychological theories psychological continuity entails a continuity of experiential contents or maintenance of psychological connections, whereas other theories stress a continuity of specific psychological capacities, which remain constant in spite of memory loss or other experiences (De Grazia 2005a). In terms of the former approach psychological connections include, among others, remembering earlier experiences (De Grazia 2005a). For example, for Locke, personal identity consisted in retaining the same consciousness over time, specifically a continuous mental history where one is able to remember both present and past moments of awareness (De Grazia 2005b). Conversely, in terms of the latter approach, numerical identity comes to an end if one loses a basic capacity such as reasoning or the capacity for consciousness (De Grazia 2005a). An alternative account of numerical identity entails a biological approach in terms of which numerical identity remains constant over time, provided that the person remains biologically alive (De Grazia 2005a). A single human organism will survive the changes in mental life occasioned by mood enhancements. As such, it is surely a psychological account of numerical identity, rather than biological, that some critics appear to think is at stake in the context of mood enhancement (De Grazia 2005b).

The concern that mood enhancers may affect numerical identity is unfounded. Firstly, none of the technologies currently available on the market are capable of affecting individual identity on such a drastic scale. Berghmans et al. (2011) note that very view studies have been done to investigate the effect of selective serotonin reuptake inhibitors on the mood of healthy people. However, the handful of available studies, which were all conducted over the short-term, showed that the effects are relatively selective (Berghmans et al. 2011).[2] In this regard, test subjects reported a reduction in self-reported negative affect such as fear and hostility, but the drug had no reported effect on positive affect such as happiness and excitement (Berghmans et

[2] See the discussion in Berghmans et al. (2011) of the studies conducted by Knutson et al. 1998 and Tse and Bond 2002.

al. 2011). Other studies have shown that the use of selective serotonin reuptake inhibitors may not be any more beneficial than St John's wort, active placebos or physical exercise in treating mild depression and it has not been conclusively shown that they are effective in minor melancholy (Synofzik 2009).[3]

Secondly, nothing can change one's numerical identity, which will always remain the same despite the qualitative changes one inevitably undergoes throughout the course of one's life (Berghmans et al. 2011). Many people undergo fundamental changes in outlook and personality over a lifetime, yet still reflect back on these changes as having occurred to them as specific individuals (De Grazia 2005a). Furthermore, the psychological approach defines identity in relation to the continuation of one and the same mental life, not necessarily the continuation of a mental life with the exact same capacities and traits (De Grazia 2005a). Changes occasioned by mood enhancements cannot literally destroy a person and replace him or her with another being (Bolt 2007). In this sense numerical identity will not be affected by mood enhancements. De Grazia (2005a) notes that critics of mood enhancement conflate the concepts of numerical and narrative identity, and that this false reasoning is based on two premises: firstly, that mood enhancement alters a person's identity and, secondly, that altering a person's identity is unethical. Based on these two premises, a conclusion is then reached that mood enhancement is unethical. De Grazia (2005a) argues that the first premise is only correct if narrative identity is involved. The second premise is only plausible if numerical identity is at stake. Given the equivocation on the idea of identity, the conclusion is false.

4.2.1.2 Unintelligible Wellbeing

The second concern noted above has to do with the unintelligibility of wellbeing, for example, emotions such as happiness. Juth (2011, 43), however, does not grasp how this concern is connected to autonomy: "If one has a self-determined plan and using some enhancement technology, probably in combination with other measures, is the most efficient way to realize this plan, it is hard to see what the problem is from the point of view of autonomy." There is also no reason why it is impossible to understand an improvement in one's mood as causally connected to the use of a mood enhancer. Instead, it would be quite typical and normal for a

[3] See discussion in Synofzik (2009) of the studies conducted by Blumenthal et al. (1999), Kirsch et al. 2008, Moncrieff et al. (2004) and Szegedi et al. (2005).

person to understand how their own bodily changes may affect their emotional states (Juth 2011). The issue that Kass (2003) appears to have could perhaps also be interpreted as a concern that the feelings of wellbeing induced by mood enhancers will not necessarily bear a correct relation to reality. Although the two concepts overlap, this issue is perhaps better understood as a concern about hedonistic conceptions of wellbeing, rather than a concern about authenticity per se. In this regard, Kass's concern seems to be that mood enhancers will make one feel good, or even just neutral, when one should actually be feeling bad (Kahane 2011). One would thus feel good contrary to affective reason and, in this sense, mood enhancement will corrupt one's emotional life (Kahane 2011). This concern does not appeal to any notions of authenticity or a true self (Kahane 2011). It thus seems more fitting to discuss it under the heading of "beneficence", below.

4.2.1.3 Changes in Narrative Identity

The final concern with regard to authenticity and mood enhancement relates to the concern about a fundamental change in one's belief system, in other words, a change in narrative identity. Whereas numerical identity relates to the metaphysical and conceptual question whether one remains one and the same being over time, narrative identity relates to value-laden and psychological notions of self-conception (De Grazia 2005a). De Grazia (2005a, 266) describes narrative identity as "an individual's self-conception: her most central values, implicit autobiography, and identifications with particular people, activities, and roles". It is possible that mood enhancers could affect one's narrative identity, depending on how one defines the core characteristics of one's narrative identity (if such core characteristics can even be identified) (De Grazia 2005a). As opposed to numerical identity, Bolt (2005, 290) notes that:

> Narrative identity concerns different questions, such as 'Who am I?' and 'Which characteristics, acts, and values make me the person I am?' Under normal conditions, we are more than human animals: we have self-knowledge and a self-narrative, which makes us capable of planning and decision-making.

Juth (2011) concedes that powerful mood enhancers could possibly result in mood and personality changes that are sufficiently drastic to change one's entire outlook on life. For example, Kramer (1994) found that some of his healthy patients who were prescribed Prozac

underwent a kind of personality transformation. Patients who were typically controlling and compulsive became more relaxed, shy patients gained self-confidence and patients who had been lonely and single for years suddenly started going out on regular dates. Juth (2011, 43) illustrates how such a change might affect one's fundamental value system by way of the following example:

> After using such an enhancement, someone might find her old interests in gothic subculture an expression of attitudinizing gloominess, while the person before the enhancement kicked in would find the enhanced person an intolerably dashing cheerful fellow. The problem here is that the attitudes of the person have changed to the extent that the 'new me' disapproves of the 'old me' and vice versa or, in other words, her very outlook on her life has changed.

A mood enhancement induced change in narrative identity is not necessarily irreconcilable with authenticity, provided that the person autonomously consented to the intervention and was aware of the possible changes that may be occasioned by the intervention (De Grazia 2005a; Liao and Roache 2011). In this regard, De Grazia (2005a, 270) notes:

> The idea that some of a person's characteristics are inviolable strikes me as beholden to a romantic, and rather implausible, notion of a 'true' self whose defining traits are independent of the individual's self-understanding and self-direction. This idea of a true self seems most coherent if construed as a person's essence, which is indeed independent of her choice – but the concept of essence is connected with numerical identity, which is not the sense of identity relevant to enhancement technologies.

Critics are also overlooking the fact that mood enhancements might allow some people to *become* their authentic selves (Bess 2010; Schermer 2007). For example, many of Kramer's patients reported feeling like their true selves for the first time after taking Prozac (Kramer 1994). For these patients Prozac promoted their authenticity by both shaping their understanding of their authentic selves as well as rendering the perception of their ideal selves "perceivable as a phenomenally felt quality" (Kraemer 2011, 53). In this sense transformations resulting from mood enhancement may be regarded as either "chemical makeovers" or, conversely, "chemical self-discoveries", the former suggesting inauthenticity and the latter an increase in authenticity (Berghmans et al. 2011, 160). De Grazia (2005a, 268), however, argues that there is nothing inherently inauthentic about chemical makeovers or what he refers to as

"projects of self-creation". Projects of self-creation, even those achieved via biotechnological means, could constitute a powerful expression of one's own agency. De Grazia (2005b, 230) notes that in deciding to undertake biotechnological (including pharmacological) self-creation projects, patients "take a step toward defining themselves in the narrative sense, inasmuch as who someone is and where she wants her life to go are inextricably connected." In this regard, identity is ultimately about self-conception, what one considers valuable and one's "self-told inner story" (De Grazia 2000, 37). Although it might seem intuitively appealing to call a pharmacologically induced change in personality inauthentic, De Grazia (2000, 35) notes that this reasoning is based on a "misleading image of the self as 'given', static, something there to be discovered" and unchangeable through agency. This concept of the self has, however, been rejected by the majority of contemporary philosophers based on, among others, feminist approaches to identity and autonomy (Schermer 2007). This is not to say that one needs to accept a radical notion of authenticity, like that of Sartre's, where one is condemned to radical freedom and self-creation (Sartre 1955). For Sartre, authenticity means individuals recognising "that literally nothing – not their genes, not their past history, not their social relationships or their talents and skills, not morality and not God – stands in the way of their self-creation" (Levy 2011, 311). One can, however, accept that one can change one's personality to some extent. If someone, based on what they value and what they consider to be their desired life plan, wants to change their personality by taking a mood enhancer, it is up to them to decide what qualifies as their authentic self and what does not – it is their story to write (De Grazia 2000). Whether a certain personality trait is a definitive part of one's core identity depends on whether or not one identifies with it, or thinks one would be better off without it (De Grazia 2000). Schermer (2007, 124) notes: "When authenticity is understood as identification with one's own characteristics and coherence between one's values and one's personality, such forms of self-development and self-creation are perfectly compatible with authenticity." For those who see authenticity as self-creation, mood enhancement could thus be a tool for self-invention or reinvention (Levy 2011). Conversely, for those few who nevertheless regard authenticity as self-discovery, mood enhancement could be a tool whereby one brings one's outer self in line with the deeper inner self (Levy 2011). As Levy (2011, 316) notes:

> The inner voice to which we listen, and which tells us what being human is for us, may not whisper of acceptance. Instead, its message might be that we should change, to bring inner and outer into harmony. Self-discovery might require change from us, and to that extent it is entirely compatible with the use of various enhancements.

Bess (2010) differentiates between four conceptions of personal authenticity in the context of mood-enhancement. Firstly, there exists the "pristine me", the version of oneself which is completely natural and unmodified by any biomedical intervention (Bess 2010, 651). Secondly, there is the "potential me", an aspirational, happier version of oneself which one has not yet attained, but that one aspires to and that is already implicit (Bess 2010, 651). Thirdly, there is the "hard-earned me", that is, the "potential me" actualised by virtue of hard work, introspection and psychotherapy (Bess 2010, 651). Lastly, there is "pharmacological me", that is, "potential me" realised by virtue of biomedical means, in this example a mood enhancing drug (Bess 2010, 651). If the charge is that improvement in mood or change in personality ("pharmacological me") is not accompanied by effort, such as intense meditation or the reading of self-help books, Juth (2011,43) notes that the concern "seems to have little to do with autonomy and more to do with some kind of chauvinist work ethics to claim that changes of personality have to be arduous in order to be authentic". Juth's observation seems accurate if one has regard to the manner in which the President's Council on Bioethics report *Beyond Therapy* (2003) framed their concern surrounding mood enhancement as a shortcut to happiness. In this regard, Kass (2003, 206) notes: "In this context the PCB is concerned with the question: Indeed, why would one need to discipline one's passions, refine one's sentiments, and cultivate one's virtues, in short, to organize one's soul for action in the world, when one's aspiration to happiness could be satisfied by drugs in a quick, consistent, and cost-effective manner?" In this sense, the concern seems to have less do to with autonomy, and more with concerns regarding desert or a corrosion of character (Schermer 2008). The Council's attitude amounts to a form of "pharmacological Calvinism" (Klerman 1972, 1). Klerman (1972, 3) summarises this view as follows:

> Thus, if a drug makes you feel good, it not only represents a secondary form of salvation but somehow it is morally wrong and the user is likely to suffer retribution with either dependence, liver damage, or chromosomal change, or some other form of medical- theological damnation. Implicit in this theory of therapeutic change is the philosophy of personal growth, basically a secular variant of the theological view of salvation through good works.

A radical change in outlook or narrative identity per se does not imply inauthenticity. People develop drastically different outlooks on life or change their internal psychological style all the time due to life experiences or psychotherapy, and these changes are generally not considered to be inauthentic (De Grazia 2005a; Juth 2011). Similarly, the mere fact that such a change in

outlook might occur more quickly or easily by virtue of the use of mood enhancement is morally irrelevant insofar as it pertains to the principle of autonomy. In this regard, Juth (2011) notes that people drastically change their outlooks on life overnight due to an unexpected life experience, yet such changes are not considered inauthentic. The means (psychotherapy or drugs) should not matter in this case as it is still the patient's values and self-conception that are the basis for the chosen means (De Grazia 2000).

Relatedly, Hyun (2001) explores what makes values authentic or inauthentic. Based on Hyon's account of the authenticity of values, a radically new set of values occasioned by mood enhancement need not be inauthentic. Some autonomy theorists suggest that the actual origins of a person's values are not of critical importance and that, instead, what matters is whether the person has critically reflected on the values (Bolt 2007; Hyun 2001). A value is therefore authentic if the person, upon critical reflection, would have accepted it, while a value is inauthentic if the person would have rejected or changed it upon critical reflection (Hyun 2001). Nothing about mood enhancement per se would prevent a person from critically reflecting on the new set of values or the extent to which he or she was influenced by the enhancing technology. The person remains free, upon critical reflection, to decide that they prefer their previous self and wish to stop taking the mood enhancer. For example, one of Kramer's patients, Philip, did not like the effect that Prozac had on his personality and felt that it robbed him of his disdain, hatred and alienation, which he strongly identified with given his troubled youth (Kramer 1994). In addition to critical reflection, Hyun (2001) suggests that authentic values are formed under certain kinds of conditions, that is, in the absence of certain external, social constraints. Hyun (2001) notes that a person's values are inauthentic if he or she was compelled to have them. In this context compulsion does not refer to mere causality, but instead suggests a situation where "the person must be denied access to alternatives that are reasonable and presently available to others who have similar capacities and abilities as he" or, "he must be barred from these other options for reasons that are morally illegitimate" (Hyun 2001, 204). In terms of this understanding, "authentic values are held under conditions where it remains reasonably possible for the individual to criticize or reject the proposal or choice another offers him" (Hyun 2001, 205). According to this view, radically changed values occasioned by mood enhancers are not inauthentic, provided that the person is aware of the causal connection and he or she remains capable of deciding to either accept or reject the values in question.

4.2.1.4 Undermining Self-knowledge and Understanding

A further ethical concern with respect to authenticity is that mood enhancers might undermine one's capacity for developing self-knowledge and understanding, thereby undermining one's authenticity and autonomy (Liao and Roache 2011). It is argued that emotions provide one with insight into oneself to the extent that they are connected with one's belief systems, especially beliefs that are suppressed or ignored (Liao and Roache 2011). Mood enhancement may thus frustrate one's ability to confront certain beliefs that one would rather not deal with by providing affective support for, and reinforcing, existing beliefs that are easier to acknowledge (Liao and Roache 2011). Liao and Roache (2011) note that some people object to therapeutic use of selective serotonin reuptake inhibitors for similar reasons. In this regard, it is argued that serotonin levels also respond to external events and features of the person and that selective serotonin reuptake inhibitors thus prevent the patient from dealing directly with such events and features (Liao and Roach 2011). Elliott (1999, 61) notes that these critics "seem to think that Prozac robs people of their uniqueness or their creativity, or that it fixes a patient's outward psychological symptoms without addressing his or her underlying problems, or that patients who take Prozac become happier without ever coming to grips with the deeper causes of their unhappiness". Some are thus of the view that the means used to achieve the change is significant and that, for example, understanding the roots of one's anxiety and adopting coping mechanisms is more important than merely reducing the symptoms (Stein 2005). Stein (2005, 237–238) notes that this line of argument suggests that "to focus only on the 'thin' technological endpoints of symptom reduction misses the 'thick' process whereby the method used to achieve change has a range of other consequences".

Freedman (1998) is of the view that treating certain forms of emotional disturbances with drugs is problematic if the cause of the disturbance is rational, rather than mechanistic. Freedman's discussion is relevant to the mood enhancement debate as many disturbances are not currently considered to be disorders. For example, Freedman (1998) uses the example of rejection sensitivity in her case study. Interpersonal rejection sensitivity per se is not currently recognised as a disorder if one has regard to the current and Fifth Edition of *the Diagnostic and Statistical Manual of Disorders* (American Psychiatric Association 2013), although it does feature as part of a cluster of symptoms for the diagnosis of other disorders such as bipolar II disorder and atypical depression. Freedman (1998) accepts that someone who is very sensitive to rejection might have problems with his or her serotonin levels. However, the mere fact that

such a person will respond to drugs does not make it ethically correct to choose pharmacological treatment as opposed to psychotherapy. A psychological problem may be physical or biological, but that does not capture anything about what it is like to experience those emotions and also does not mean that the problem is totally reducible to biology (Freedman 1998; Kheriaty and Greeks 2006). Kheriaty and Greeks (2006, 24) note:

> It is doubtful that biological psychiatry can ever definitively demonstrate that a psychological problem is wholly caused by a physical problem, as opposed to merely being physically realized. Likewise, biological solutions, however apparently successful, do not rule out other, more lasting, meaningful, and human solutions, which may never be tried if we reach too quickly for a green-and-white pill.

Even though drugs and understanding may lead to the same result, that is, psychic wellbeing, Freedman (1998) believes that the means matter morally in some cases, as one's conception of oneself as a responsible agent, rather than a mere machine, is at stake. Freedman (1998) argues that emotional pain is not the same as physical pain and that psychopharmaceuticals are not the same as analgesics. Emotions are not merely like pains that are caused by certain beliefs or perceptions, but are themselves certain modes of perception and cognition, even though they manifest physically, and one experiences them intensely (Freedman 1998). Freedman (1998) thus rejects what has been described as biopsychiatry's "reductionist agenda", that is, the trend of treating psychological pain mechanistically (De Grazia 2005b, 217). In this regard, whereas something like a headache is mechanistically caused, emotional problems are often rooted in false beliefs or mistakes in reasoning about oneself or one's self-interpretation (Freedman 1998). However misguided one may be in this regard, one believes one's attitudes to be justified and sourced in insight and reason (Freedman 1998). If, however, one treats these types of disturbances with drugs (thus in terms of mechanistic causality only), one sacrifices one's personhood and a conception of oneself as a rational agent whose attitudes are grounded in reason (Freedman 1998). Similarly, Scotti (2016) argues that using mood enhancers in such cases reveals a self-disrespecting attitude. Scotti (2016) endorses a feminist conception of self-respect as put forth by Dillon (1992), namely self-respect as self-acceptance. On this account having self-respect does not mean that one should not try to improve oneself. However, a truly self-respecting attitude requires that one does not simply reject one's unwanted imperfections. Instead, one should take oneself seriously in one's self-improvement projects. Taking oneself seriously in this context requires that one should try to understand the underlying reasons for

one's emotions and directly confront and deal with the unpleasant parts of one's psyche (Scotti 2016). As Freedman (1998, 143) notes:

> When we see someone's problem as a mistake in reasoning, there is an imperative to help them understand their error. For that is the way we value our capacity as creatures who act on reasons. Valuing the fact that we can act on reasons means trying to correct mistakes in reasoning with other reasons. To think it appropriate to 'cure' mistakes of reasons mechanistically is to regard our rational capacity of little significance or importance. That – insofar as we live in a world of selves – is something we are in no position to do. It is in this sense that it matters what means we use to 'cure' our psychological problems.

It may also be possible that one's emotional reasons are not rooted in mistakes in reasoning and that they are quite justified, even though they cause one deep discomfort (Scotti 2016). In this sense treating something like existential angst with an antidepressant might thus also reflect a self-disrespecting attitude or represent a kind of category mistake (Elliott 1999). As Elliott (1998, 180) asks with reference to a modern-day sense of alienation:

> So my question is this: suppose you are a psychiatrist and you have a patient who has precisely this sense of alienation; say, an accountant living in Downers Grove, Illinois who comes to himself one day and says, Jesus Christ, is this it? A Snapper lawn mower and a house in the suburbs? Should you, his psychiatrist, try to rid him of his alienation by prescribing Prozac? Or do you secretly think that maybe, as bad off as he is, he is better off than his neighbors? Because … even though he's in a predicament, at least he's aware of it, which is a lot better than being in a predicament and thinking you're not.

It is argued that experiencing terror or angst or emptiness may be a natural and reasonable response to being in the modern world, something one is entitled to feel, and which is worth attending to (Elliott 1999; Percy 1983). Elliott (1999, 68) notes that this does not mean that feeling empty or sad or alienated is a good thing, but that these feelings may be better described and approached as "clues to a predicament", rather than pathology. The proper, and most authentic response, to these feelings may thus "look less like treatment and more like a search" (Elliott 1999, 68). Such a predicament is not something that can be cured with drugs, but rather by changing the way one lives one's life (Elliott 2000). If this is so, then something important (authenticity, autonomy, a deeper self-understanding and appreciation of the human condition,

etc.) may be lost by medicating this kind of distress. As Levy (2011, 310) notes: "Prozac stills that inner voice which we are better off for hearing."

Some problems may be better addressed with insight and understanding, or a combination of therapy and drugs, especially if drugs facilitate the therapeutic process (Freedman 1998). As De Grazia (2000, 39) notes: "For those who are willing to work and confront some unpleasantness about themselves or their lives, and who possess at least ordinary introspective capacities, psychotherapy offers insights that are generally not available from other sources or activities." However, should a patient be made aware of the potential presence of false beliefs and nevertheless choose to take a mood enhancer, rather than explore therapy, different aspects of the patient's autonomy might come into conflict. A patient might autonomously choose to forego a deeper sense of self-understanding and disrespecting a patient's autonomous wishes is problematic. These cases will be hard ethically, as the patient's decision to rather take the mood enhancer will be autonomous, yet their autonomy in a global sense will remain compromised. It should, however, also be kept in mind that concerns regarding compromised self-understanding are speculative and have a partly empirical nature (Berghmans et al. 2011). In this regard, there are inadequate studies regarding the effect of selective serotonin reuptake inhibitors on self-experience and self-understanding in healthy people (Berghmans et al. 2011). Patients should be free to take a mood enhancer in these circumstances. Although contested, reductionism is one of many philosophical positions on human freedom and patients should be permitted to agree with a reductionist agenda (De Grazia 2005b). De Grazia (2005b, 217) notes:

> Further, even if we agree on the practical importance of understanding ourselves as responsible agents, cosmetic psychotherapy does not preclude an appropriate relationship to this value. At some level, surely, we are responsible agents. But we are also feeling creatures. Suspiciousness, self-esteem problems, and obsessiveness are connected with our agency, but they are also closely tied to unpleasant experiences, which medications may help to alleviate.

If one considers the patient's autonomy overall, adopting a liberal position might be the most acceptable course of action. In terms of the common liberal standpoint physicians should respect an autonomous and properly informed patient's assessment of what constitutes their own wellbeing and appropriate care (Ravelingien et al. 2009). This does not preclude the need for a detailed discussion regarding the potential risks, benefits, alternatives and even the physician's personal concerns and hesitations (Ravelingien et al. 2009). In this regard, Synofzik

(2009) recommends that decisions regarding the use of mood enhancers should be embedded in a participative and deliberative process. However, patients are ultimately best positioned to make assessments regarding what constitutes their own wellbeing and best interests. This is especially true in the case of psychology, as objective tests are not always foolproof and the experience of one's mental life remains "essentially subjective and impenetrable" (Ravelingien et al. 2009, 155). The only exception would be in cases where the prescription of a mood enhancer would violate the principle of non-maleficence, that is, in cases where there is a large discrepancy between expected benefits and harms (for example, no expected benefit, but significant expected harm). In such cases obligations based on the principle of non-maleficence would likely overrule the physician's duty to respect the patient's autonomy (Synofzik 2009).

4.2.2 Autonomy of the Request for Mood Enhancement

A further autonomy-related concern regarding mood enhancement is that requests for enhancements are often motivated by strong underlying patient wishes and desires that may compromise decision-making ability to the extent that this acts as an internal source of pressure (Buyx 2008). In this regard, Buyx (2008) notes that in the case of requests for enhancements, it is primarily the patient who does most of the decision-making and that it is therefore important to ensure that these decisions are made autonomously. Whereas a physician typically chooses and suggests treatment options during the traditional clinical encounter, patients who seek enhancements often make decisions about preferred interventions before the issue of informed consent is even raised by the physician (Buyx 2008). Buyx (2008, 138) notes:

> She arrives at her own 'personal indication' for treatment and she makes the choice of a treatment direction, often including the choice of a specific procedure. Thus, she executes autonomy far more directly and with a greater impact than in usual clinical situations. In many contexts of wish-fulfilling medicine, consenting to a treatment as the last part of the decision-making process develops to a formality. It is only in this last part that the doctor – not in the role of a healer, but of an adviser – comes in to provide necessary information and make sure there are no individual risks in performing the desired intervention.

Aside from internal pressures, patients may also feel pressured to comply with certain norms that may be coercive. Some personality traits are seen as more socially desirable and individuals who do not comply with these norms may feel pressure to take a mood enhancer

(Scotti 2016). Concern has also been expressed that some people may turn to mood enhancers for competitive benefits. Should this occur, those who would prefer not to take mood enhancers may feel coerced to do so due to competitive pressures (Chatterjee 2007; De Grazia 2000).

Although the concerns regarding internal and external pressures are valid, it should be noted that being influenced by societal norms does not equal coercion (Buyx 2008). For example, De Grazia (2005b) considers an action to be autonomous, provided that the patient's underlying motivation is not rooted in influences that he or she would, upon careful reflection, consider alienating. De Grazia (2005b, 102) defines autonomous action as follows: "A autonomously performs intentional action X if and only if (1) A does X because she prefers to do X, (2) A has this preference because she (at least dispositionally) identifies with and prefers to have it, and (3) this identification has not resulted primarily from influences that A would, on careful reflection, consider alienating." This concept of autonomous decision-making accommodates the fact that no decision can be said to be made in a vacuum and that such external influences are generally compatible with a realistic standard of autonomy (Scotti 2016). Furthermore, at this stage, the possibility of social coercion for mood enhancement seems speculative and far-fetched (De Grazia 2000). Concerns about social coercion are also less pronounced in technologies that do not confer significant competitive advantages. There is, of course, often an overlap and many forms of enhancement confer both competitive and intrinsic benefits (Bess 2010). An argument could be made that mood enhancers may, in addition to increasing a personal sense of wellbeing, lead to the recipient having a more socially desirable personality, which may result in competitive benefits. For example, a mood enhancer may increase self-esteem and assertiveness, thus enabling someone to become a better salesperson, negotiator, lawyer and so forth (Bjorklund 2005). Being more sociable also generally confers some advantages in many walks of life (Chatterjee 2007; Farah 2002). In the case of mood enhancements, however, the benefit is largely intrinsic and relates to the individual patient's level of wellbeing, rather than a clear and significant competitive advantage as would be the case in, say, the use of steroids in competitive sports. Mood enhancement is thus typically aimed at achieving wellbeing or happiness for its own sake, as it is intrinsically valuable as an absolute good, independent of the pattern of distribution (Palk and Stein 2020). Ultimately, although social coercion is undesirable, it would be at least an equal, and arguably a worse, infringement on autonomy and liberty to restrict access to mood enhancing technologies simply because of the speculative risk of social coercion (Farah 2002).

These concerns are also largely empirical in nature and there is a dearth of research into the quality of patient autonomy in cases of requests for enhancements (Buyx 2008). Without such empirical information, there is not a principled method by which to make any assumptions about patient autonomy in these contexts and each case will have to be evaluated on its own merits (Buyx 2008). This highlights the necessity of a rigorous and autonomy-promoting informed consent process in the case of requests for mood enhancers. Synofzik (2009, 99) notes: "By this way, a physician can correct a consumer's wrong perceptions about benefit and harm, scrutinize his motivation, assess his decision-making capacity and identify subtle influences of coercion which might not even be explicitly recognized by the consumer himself."

4.3 Beneficence

Beneficence suggests acts or character traits including mercy, kindness, generosity and charity (Beauchamp 2019). In terms of ethical theory, beneficence is understood to include any norms, dispositions or actions that are aimed at benefiting others or promoting the good of other persons (Beauchamp 2019). When expressed as a principle or rule, beneficence entails a moral obligation to act in a way that will benefit and help others to further their vital and legitimate interests, most often by preventing or removing possible harms (Beauchamp 2019). In the context of biomedical ethics, professional obligations of beneficence are informed by physicians' commitment to prevent, or at least reduce, harm to patients, as well as ensure that the harms inherent to treatment do not far outweigh its benefits (Beauchamp 2019).

In the context of mood enhancement, concerns regarding beneficence generally relate to the question whether mood enhancement can truly be said to benefit patients. Some argue that enhancement is too readily equated with beneficence (Schermer et al. 2009). However, in terms of a welfarist understanding of enhancement, the issue of beneficence is a threshold definitional question. A technology can only be described as a form of enhancement if it in fact tends to increase wellbeing. As such, it is of cardinal importance to address the question whether mood enhancement is beneficial. If not, these technologies will not qualify as true "enhancements" in terms of a welfarist approach and their use by the medical profession will also constitute a violation of the principle of beneficence. It is not axiomatic that mood enhancers increase wellbeing and there are deep philosophical concerns regarding which conceptions of the good

life, wellbeing and happiness ought to be used to assess the effects of mood enhancement (Schermer et al. 2009).

4.3.1 Contested Notions of Wellbeing

Most people want to enjoy a sense of happiness and wellbeing, but the meaning of happiness and wellbeing will differ from one person to the next. Accounts of wellbeing range from mental state or experience views (hedonism), the satisfaction of preferences or desires, and objective and substantive list theories (Mulgan 2007). These theories of wellbeing can be broadly divided into two categories, namely, objective and subjective theories (Taylor 2015).

In terms of subjective theories wellbeing relates to a subjective state of mind, whereas objective theories reject this connection (Taylor 2015). Both mental state or experience views (hedonism) and desire satisfaction theories fall under the category of subjective theories of wellbeing. In terms of hedonistic theories mental states themselves determine wellbeing (Taylor 2015). The ultimate good is happiness, meaning pleasure and freedom from pain. Nothing is desirable independent of its inherent pleasure or ability to promote pleasure (Smart and Williams 1973). There are also subtle differences between various mental state or experience theories. Classical hedonism defines wellbeing in terms of the overall balance of pleasure over pain, whereas other theories focus on a global state of happiness or life satisfaction (Taylor 2015). According to desire satisfaction theories the best action maximises the satisfaction of preferences over their dissatisfaction and wellbeing is measured with reference to the satisfaction of desires and preferences (Mulgan 2007). Whereas preferences and desires are indicative of wellbeing in terms of a hedonistic account, satisfaction of preferences and desires constitutes wellbeing in terms of desire satisfaction theories (Mulgan 2007). Desire satisfaction theories have a hedonistic slant, as one typically desires whatever causes pleasure, however, it differs from hedonism insofar as it recognises that one may desire pain and that one's preferences might not solely relate to one's own experiences (Mulgan 2007). Whereas mental states per se have value for the subject in terms of hedonistic theories, mental states demarcate certain states of the world as having value in terms of desire satisfaction theories (Taylor 2015).

In terms of objective and substantive accounts of wellbeing certain goods have intrinsic value and are good for everyone (Smart and Williams 1973). For example, knowledge, justice, love and so forth are intrinsically and objectively good, independent of pleasure or desire

satisfaction, and are constitutive of human wellbeing (Smart and Williams 1973). An objective theory recognises that some pleasures are bad and may not improve one's life and, furthermore, that something might be good even if one does not desire it or it does not produce pleasure (Mulgan 2007). Objective theories, such as objective list theories, can also be divided into various subcategories. Some Aristotelian versions define wellbeing in terms of the perfection of human excellence and development and exercise of capacities, whereas other objective theories identify various components of the good life (Taylor 2015). Newer theories, such as Martha Nussbaum's capabilities approach, define human wellbeing by asking what a person is actually capable of doing and being, that is, one's capabilities and functionings (Nussbaum 2000). A capabilities approach can be either subjective or objective, depending on whether the capabilities and functionings are specified or left to the discretion of the individual (Taylor 2015).

The tension between the various understandings of wellbeing presents a problem in the debate on mood enhancement. The concern on the part of bio conservatives seems to be that mood enhancers increase wellbeing, but only in a purely hedonistic sense of the word, thereby leading to a false sense of happiness (Beck and Stroop 2015). Bio conservatives argue that wellbeing cannot be reduced to purely hedonistic bliss or good mood and that something important is therefore lost when one tries to achieve wellbeing via mood enhancement (Stroop 2016). As Berghmans et al. (2011, 161) note:

> A good or happy life at least partly seems to depend on individual striving and effort, and on being connected to other people by way of social relationships and interactions. To produce their effects, mood enhancement technologies do not depend on such strivings, efforts and human relationships, and may ultimately result in a shallower life, instead of a richer life. Such interventions may produce and reinforce social isolation and societal non-participation in individuals who lack well-being.

Similarly, Kass (2003, 298), on behalf of the President's Council on Bioethics, states:

> In seeking brighter outlooks, reliable contentment, and dependable feelings of self-esteem in ways that by-pass their usual natural sources, we risk flattening our souls, lowering our aspirations, and weakening our loves and attachments. By lowering our sights and accepting the sorts of satisfactions that biotechnology may readily produce for us, we risk turning a blind eye

> to the objects of our natural loves and longings, the pursuit of which might be the truer road to a more genuine happiness.

These critics appear to favour objective list accounts of wellbeing, whilst strongly rejecting subjective and hedonistic accounts (Beck and Stroop 2015). The concern surrounding mood enhancement is ostensibly predicated on the assumption that mood enhancement will lead to a kind of existence where one experiences a sense of mindless personal fulfilment, whilst abandoning any attempt at an objectively meaningful existence. Critics invoke somewhat extreme images of a kind of Huxleyan dystopia where psychopharmaceuticals are equivalent to "soma" and where one is entirely out of touch with reality. The characters in Huxley's *Brave New World* (1932) take soma, a pleasure drug dispensed by a totalitarian government, to feel good contrary to reason. Similarly, the critique surrounding mood enhancement reminds one of Robert Nozick's 'Experience Machine'. In this experiment the reader is asked to imagine that one can be connected to a machine which creates a totally subjective and artificial pleasurable experience. Nozick (1974) argues that most people would not choose to be connected to such a machine for the rest of their lives, as it would result in a false sense of wellbeing. As Schermer (2007, 121) describes it, on this account, mood enhancers present a form of escapism and produce a false sense of wellbeing in the absence of real human happiness and fulfilment, thus distracting from "any human effort or true morality". Mood enhancement thereby promotes "superficial hedonism" and alienates one from "real human life that we know" (Schermer 2007, 121). Critics are thus concerned that the use of mood enhancers will jeopardise the development of other components of wellbeing, such as love, friendship and family life (Stroop 2016). Critics often link these objective components of wellbeing to a normative conception of human nature, and these components are seen as integral parts of wellbeing by virtue of one's very nature (Stroop 2016).

These concerns are similar to those expressed by Kahane (2011, 166), namely, that mood enhancement could "corrupt" one's emotional life by making one feel good, or even just neutral, when one should actually be feeling bad. One's emotions would thus be incongruent with one's "affective reasons" (Kahane 2011, 167). Kahane (2011) distinguishes between hedonistic reasons to feel, on the one hand, and affective reasons to feel, on the other. Based on a purely hedonistic account of wellbeing the only thing that matters is the promotion of pleasure over pain. There are thus good hedonistic reasons for mood enhancement. However, Kahane (2011) argues that there may be affective reasons to feel a certain way based on one's

value system and certain situations may reasonably call for certain feelings. For example, appropriate grief following the death of a loved-one is morally valuable and meaningful as it reflects the moral and emotional connection one had to the deceased (Schermer 2008). Kahane (2011, 168) explains the relationship between value and reasons for feelings as follows: "We should feel good about the good, and feel bad about the bad, though what it is exactly we should feel (elation, joy, content, satisfaction, etc.) will depend on the different respects in which different things are valuable." Some argue that taking a mood enhancer in these circumstances would amount to a corruption of one's emotional life and would divorce one from reality (Kahane 2011). One would thus experience a sense of wellbeing contrary to reason, in other words, one would feel good when one should actually be feeling bad (Kahane 2011). Furthermore, even if mood enhancement causes one to experience an appropriate sense of wellbeing (in other words, when one has affective reasons to feel good), one would simply be conforming, rather than truly responding, to such affective reasons (Kahane 2011).

Similarly, Kraemer (2011) notes that in addition to authenticity, emotions should also be rational and coherent. These concerns seem to echo what Kahane (2011) describes as a corruption of one's emotional life and the general concerns regarding a disconnect between subjective wellbeing and objective reality. Kraemer (2011, 58) notes than an emotion is rational if it "represents a state of affairs correctly or at least grasps it in a rationally comprehensible way". In this sense, the rationality standard relates to the "epistemic fittingness of intentional object and feeling" (Kraemer 2011, 58). With reference to Goldie (2000), Kraemer (2011) provides a phenomenologically modified cognitivist account of the rationality standard for emotions. According to Goldie (2000), an emotion is a feeling experienced towards something, or, as Kraemer (2011, 58) phrases it, "a felt quality that is directed intentionally toward an object or state of affairs." Goldie (2000) notes that emotions have two aspects that form a single unit. The first aspect is a feeling perceived from a first-person perspective. The second aspect is the intentional content of the emotion, that is, the state of affairs or object towards which the emotion is directed. Kraemer (2011) deduces a standard of emotional rationality from Goldie's account of emotions. In this regard, Kraemer (2011) argues that an emotion is irrational if the relationship between one's qualitative feeling and intentional content is disharmonious.

Kahane (2011) addresses these charges by arguing, firstly, that even if mood enhancement might prevent one from responding to negative affective reasons, it may also enhance wellbeing by increasing the capacity to recognise positive affective reasons, thus to better

recognise and be grateful for the good things in one's life. In this sense, mood enhancers may increase wellbeing in terms of objective list theories. As Beck and Stroop (2015, 132) note:

> In this latter case the goal is to establish a kind of alertness and openness towards valuable activities which in turn promote well-being. Therefore, far from entrapping us in some chemical 'experience machine' and thereby leading to inauthentic experiences, mood enhancers might in some cases assist us in coming to grips with the 'real' world. This indirect promotion of happiness via mood enhancement does not necessarily conflict with an objective account of well-being. If the goods on the respective list can be achieved reliably by improving one's general outlook on the world and one's interaction with the social environment, it is hard to see how this could be disadvantageous for leading a good life.

Furthermore, mood enhancers may also prevent one from feeling bad unnecessarily, in other words, from responding to imagined negative affective reasons or overreacting to negative affective reasons. Kahane (2011) furthermore argues that when one reflects on what one ought to feel, there are good reasons to promote mood enhancement. In this regard, society generally encourages people to adopt a positive attitude. There may be both hedonistic and pragmatic reasons for this, but Kahane (2011) argues that there are also intrinsic affective reasons for orientating one's life in favour of the good. Kahane (2011, 173) notes:

> In other words, although affective reasons have general priority over hedonic ones, there is within the affective realm priority to positive affective reasons over negative ones. To the extent that such a normative priority really holds, then positive mood enhancers, on the whole, are something to favor – something that directs our affective orientation in exactly the right direction. This would apply most strongly if… mood enhancers actually allow us to better respond to our positive affective reasons. It would apply more weakly if positive mood enhancers merely made it easier for us to conform to such reasons.

Kahane (2011) notes that this argument has even greater force in the case of persons who are naturally prone to negative mood, thus persons whose affective dispositions generally point in a negative direction. The force of the argument is also strengthened if one has regard to the large body of empirical evidence that one's affective dispositions generally do not perfectly reflect and respond to one's affective reasons and that, instead, emotions are largely shaped by

innate and irrational factors (Kahane 2011).[4] For example, empirical evidence shows that persons who are generally upbeat will remain so even in the face of adverse life events and most persons maintain a kind of baseline level of wellbeing. The reverse also holds true – some persons are just naturally morose and find it hard to respond to their positive affective reasons. A change in life events will not affect this disposition in the long run. These studies show that baseline levels of wellbeing might respond positively or negatively to major life events in the short-term, but eventually the levels adapt to the changed circumstances and return to more or less what they were before. If the concern is that mood enhancers could corrupt emotional life, it should thus be kept in mind that it was probably never in a "pristine natural state that mood enhancer might corrupt" to begin with (Kahane 2011, 174). The priority for affective reasons thus cannot be used as a blanket argument against mood enhancement, especially if it is capable of increasing the ability to recognise and respond to positive affective reasons. In this sense there may be convincing affective and hedonistic reasons to promote mood enhancement. If these technologies enable one to better respond to affective reason, mood enhancement may be entirely reconcilable with all major theories of wellbeing.

Although there may be good reasons to promote mood enhancement, the possibility of hedonistic bliss, whilst being completely cut off from the reality of one's life, remains problematic to those who emphasise the objective components of wellbeing. As De Grazia (2005a, 272) notes: "If we could have a pleasant life only at the cost of profound, systematic misinterpretation of reality, few would consider that better for us than a reality-based, but less pleasant, life." Various forms of mood enhancement may therefore have to be carefully scrutinised to determine to what extent it may result in subjective hedonism to the exclusion of any objective elements of wellbeing. At some stage one might reach an upper limit of subjective wellbeing, beyond which other valuable capacities, including the ability to meaningfully engage with the world, become compromised (Bostrom 2008). Even transhumanist supporters of mood enhancement do not embrace the view that good mood is singularly constitutive of wellbeing (Stroop 2016). Be that as it may, subjective wellbeing is an important component of wellbeing in terms of all the main theories of wellbeing (Savulescu et al. 2011; Stroop 2016; Zohny 2014). In this regard, the main theories of wellbeing converge to some extent and certain traits, including good mood, are considered valuable in terms of most conceptions of wellbeing

[4] See the discussion in Kahane (2011) of the studies done by Brickman et al. 1978; Fujita and Diener 2005; Goldsmith 1983; and Tellegen et al. 1988.

(Zohny 2014). In terms of hedonistic and desire theories these traits are considered good because they are either pleasurable or satisfy desires (Zohny 2014). Even objective list theories recognise that subjective pleasure may contribute to wellbeing and that one typically desires things that are in fact independently good (Zohny 2014). In this sense mood enhancement may be reconcilable with objective theories of wellbeing. It should also be noted that mood enhancers, at least those currently available on the market, do not directly result in hedonistic bliss (Beck and Stroop 2015). Beck and Stroop (2015) state:

> [M]ood enhancers such as anti-depressants do not have an immediately uplifting impact but their effect rather comes about continually after a period of time without leading to feelings of ecstasy or feelings contrary to reason. Hence, the suspicion that mood enhancers inevitably disconnect our feelings from reality by provoking an illusion appears exaggerated, at least from an empirical point of view.

Mood enhancement will therefore not necessarily lead to a purely hedonistic sense of wellbeing. Instead, it is far more likely to provide an indirect avenue to wellbeing by allowing one to better appreciate positive affective reasons, or not to respond irrationally or overreact to negative affective reasons (Beck and Stroop 2015). Similarly, considering the fact that mood enhancers are often taken to develop more socially desirable personality traits, or those traits that just make life a little easier, mood enhancement arguably promotes wellbeing in an indirect sense only (Stroop 2016). For example, a mood enhancer may allow a shy person to function better socially, thereby leading to more fulfilling relationships and the attainment of other objective goods. Far from directly leading to subjective and irrational hedonistic bliss, mood enhancers may thus allow one to more effectively pursue objective goods. To this extent mood enhancement is reconcilable with all major theories of wellbeing.

4.4 Non-Maleficence

The principle of non-maleficence entails an obligation to abstain from causing harm to others, or doing as little harm as possible (Beauchamp and Childress 2013). In the context of mood enhancement concerns based on considerations of non-maleficence primarily relate to the risks and side-effects associated with mood enhancement and whether such harms are justified, having regard to the expected benefits. Some also argue that mood enhancement perpetuates certain problematic and harmful societal norms. The aforementioned concern also appears to

be based on considerations of non-maleficence, the assumption being that physicians who provide mood enhancers are morally complicit in preserving and reinforcing these harmful norms.

4.4.1 Appropriate Benefit-Harm Ratios

Some argue that mood enhancement should be approached with extreme caution as there isn't any certainty that the use of these technologies in healthy people is safe and beneficial. Whilst the safety and risk profiles of drugs that have been on the market for many years, such as Prozac, are relatively known and predictable, there are little data on long-term use for newly developed drugs, especially in healthy subjects (Koch 2013). Current studies in the effectiveness of selective serotonin reuptake inhibitors in healthy persons are sparse and show limited benefit (Berghmans et al. 2011; Synofzik 2009). Due to the invasive nature of the intervention no studies have been done on the effect of deep brain stimulation in healthy volunteers and research on the effects of non-pharmaceutical methods on brain function in healthy persons has been limited to transcranial magnetic stimulation, which is less invasive compared to deep brain stimulation (Berghmans et al. 2011). The lack of well-controlled trials may be due to the predominant disease-centred framework for the regulation and funding of medical research (Synofzik 2009). Physicians are at a disadvantage due to the lack of clinical studies on the effects and safety of these drugs in healthy persons and it is unknown whether the available study findings can be extrapolated to the general population (Larriviere et al. 2009). Furthermore, even if a mood enhancer is effective in some respect, it may adversely affect other functions. For example, selective serotonin reuptake inhibitors may cause short-term side effects such as nausea, gastrointestinal problems and sexual dysfunction (Synofzik 2009). There was also much controversy some years ago regarding the use of selective serotonin reuptake inhibitors and the increased risk of suicide attempts, especially during the initial treatment period (Berghmans et al. 2011). Long-term side effects are also unknown for many psychotropic drugs or studies have shown inconsistent findings (Synofzik 2009). For example, Synofzik (2009, 98) notes that:

> It is well known from treatment of patients with Parkinson's Disease that phaseal stimulation of striatal neurons through (dopaminergic) drugs severely modifies transmitter- and receptor-systems and that long-term use leads to loss and severe fluctuations of drug effects and to induction of movement disorders. Similar processes might take place with respect to mood-

> enhancing drugs. It was shown, for example, that transient inhibition of serotoninergic receptors with a SSRI during early development produces abnormal emotional behaviors in adult mice, indicating a critical role of serotonin in the maturation of brain systems that modulate emotional function in the adult.

Harris (2009) notes that if the ethics of enhancement depend on a cost-benefit and safety-advantage analysis, then it is essential that an appropriate safety standard or harm-benefit ratio should be established. Some argue that a stricter harm-benefit ratio should apply in conditions and interventions that are closer to the enhancement end of the spectrum, as opposed to conditions that clearly fall on the treatment end (Chatterjee 2007). In the context of mood enhancement, Farah et al. (2004) argue that mood enhancement calls for an even more conservative approach compared to other elective interventions as it involves interference with a more complex system compared to say, cosmetic surgery, and is associated with greater unforeseen risks. In this regard, brain research shows that chronic drug use interferes with complex interacting networks of nerve cells, which inevitably results in disturbances of the system, including both the soft-wiring of the brain, as well as potentially permanent changes in gene activity that over time reconstruct parts of the brain (Koch 2013). Although these changes are mostly of an acceptable degree, they could also permanently impair function (Koch 2013). The costs of these side-effects may be worthwhile in the context of a mental disorder, but a careful analysis of harms and benefits has to be conducted in the case of healthy patients. This is especially true in the case of surgical methods, as these interventions hold unique risks and are generally less reversible and more invasive compared to cosmetic psychopharmacology (Ravelingien et al. 2009). Some argue that there are justifiable reasons for taking risks in order to treat disease and dysfunction, but that no such justification exists in the case of improvement of normal function (Daniels 2009). For example, Daniels (2009, 38) notes that:

> [I]f we are trying to ameliorate or eliminate a serious genetic disease, or disease for which there may be some genetic or other medical remedy, the probability of potential benefit from the experimental intervention, may plausibly outweigh the certainty of catastrophic illness. But if we are trying to improve on an otherwise normal trait, the risks of a bad outcome, even if small, outweigh the acceptable outcome of normality. So we cannot ethically get there from here.

If, however, one rejects the normative force of a strict treatment-enhancement distinction, as well as Daniels' assumption that the reasons for interfering in the natural lottery relate solely

to restoring equality of opportunity, his precautionary approach is unconvincing (Harris 2009). As discussed in Chapter 2, Daniels is mistaken in his belief that achieving equality of opportunity is the principal reason for, or even an essential part of, a moral right to healthcare. Instead, one intervenes in the natural lottery for reasons including compassion, beneficence, to prevent harm, to gain benefits and so forth (Harris 2009). Furthermore, it was illustrated in Chapter 2 that normality per se has little normative force. Traits are not acceptable because they are normal, but because they are valued as worth having for other reasons (Harris 2009). As such, Harris (2009) argues that "the normality of the trait in question is clearly doing no work at all in the assessment of its moral acceptability or of the risks it might be worth running to change things". Instead of asking whether the trait one seeks to improve is normal or a symptom of a disease, the question one should be asking is whether or not it is worthwhile to take a mood enhancer, given the expected benefits and harms (Harris 2009). In answering this question, it should be kept in mind that the moral imperative and motive for intervening in the natural lottery is the pursuit of certain goods (for example, the increase in wellbeing occasioned by mood enhancement) and/or to prevent harms (Harris 2009). Whether or not it is worthwhile to take the risk would also depend on whether the harms and benefits will affect an individual or the entire population (Harris 2009). In the context of mood enhancement and the individual physician-patient relationship, the goods being pursued, as well as potential harms incurred, relate solely to the individual patient. In such cases it should be up to the individual patient to decide whether the harm-benefit ratio is acceptable (Harris 2009). In this sense strong priority should be given to the principle of respect for patient autonomy. The only exception may be where the expected harms outweigh the expected benefits to such a disproportionate extent that the principle of non-maleficence prevents physician involvement in the prescription of the mood enhancer (Synofzik 2009).

Given the importance of the benefit-harm assessment it will be incumbent on the physician to obtain informed consent from the patient and to have a realistic discussion about the balance of benefits and harms (De Grazia 2000). It is also important to keep in mind that the risks will have to be weighed against possible putative benefits that the patient is expecting, for example becoming more socially desirable, which may be difficult to quantify (Larriviere et al. 2009). As such, the better a patient is able to specify and articulate his or her goals, the better the physician and patient will be able to perform an assessment of possible benefits and harms, including the management of realistic expectations of benefits on the part of the patient (Larriviere et al. 2009). Synofzik (2009) suggests a framework for the assessment of benefits

and harms in the context of mood enhancement which is reconcilable with the relatively *laissez-faire* approach suggested by Harris (2009). Synofzik (2009) suggests that in order for a mood enhancer to be effective it must firstly show a likely physiological or psychological effect in the specific patient. As such, Synofzik (2009, 97) states: "In contrast to the mostly purely speculative neuroenhancement scenarios about alleged high efficacy and selectivity of newly developed psychotropic drugs presented in the media, giving rise to 'hyperbolic expectations' and 'speculative ethics', a more realistic picture needs to be adopted when facing the empirical facts." Secondly, a mood enhancer can only be said to provide a benefit to the patient if it is both effective and beneficial. In this context benefit means that the mood enhancer should allow the particular patient to achieve the goals which they hold personally valuable in light of their psychosocial circumstances and conceptions of the good life. Synofzik (2009) notes that statistical evidence of the mood enhancer's quantitative effectiveness is thus insufficient. When assessing benefit, the physician should establish a normative assessment method independent from both his or her private values as well as those of the patient. Synofzik (2009, 98) suggests that physicians should have regard to their "knowledge of values and experiences of other consumers who have taken the respective drug in a comparable situation". The principle of non-maleficence requires that the harms of the intervention should not outweigh the benefits. When assessing potential harm, physicians should remain cognisant of the factors that complicate an accurate assessment of benefit-harm ratios (Synofzik 2009). For example, studies that show dubious benefit-harm ratios of psychotropics are often not published, are not correctly interpreted or are falsely represented in advertising (Synofzik 2009). Depending on the balance of potential harms and benefits, the physician should then make a recommendation to the patient through a shared deliberative process (Synofzik 2009). In this regard, Synofzik (2009) states that the strength of the recommendation should be proportional to the benefit-harm ratio, which will roughly fall within one of the following five scenarios:

1. If the expected benefits outweigh the expected harms by a large margin, the physician should both offer and strongly recommend the mood enhancer. This is more likely to be the case in classically therapeutic cases, for example, the use of selective serotonin reuptake inhibitors in depression that has not improved following psychotherapy.

2. If the expected benefits only slightly outweigh the expected harms, the physician should recommend the mood enhancer less strongly, for example, the use of selective serotonin reuptake inhibitors in a transient depressive state.

3. If the expected benefits and harms are equal, the physician should offer the mood enhancer, but the eventual decision to use the mood enhancer should be left to the discretion of the patient.

4. If the expected harms only slightly outweigh the expected benefits, the physician should offer, but simultaneously discourage the use of the mood enhancer, for example, the use of selective serotonin reuptake inhibitors in the case of melancholic mood.

5. If there is a large discrepancy between the expected harms and benefits, for example, there is no expected benefit with a high probability of severe harm, the physician should not offer the mood enhancer even if the patient insists on it. In these cases, considerations of non-maleficence will outweigh the physician's duty to respect the patient's autonomous choices.

The aforementioned approach emphasises the importance of a balanced and autonomy-promoting discussion of harms and benefits, which should occur on a case-by-case and individualised basis (De Grazia 2000). The decision whether or not to take a mood enhancer ultimately depends on the patient's preferences in scenarios one to four, thus emphasising the obligation to respect the patient's autonomy (Synofzik 2009). In this sense, the approach calls for caution against paternalistic prohibition, except in exceptional cases where the expected risks are great with little prospect of possible benefit (De Grazia 2000). As De Grazia (2000) notes: "[S]ince we are considering competent adults making self-regarding decisions, a liberty we tend to prize very highly in biomedicine, a blanket prohibition is less compelling than a willingness to examine proposals for enhancement case by case."

4.4.2 Complicity with Morally Suspect Norms

A lot has been written in the enhancement literature regarding medicine's complicity with suspect or unjust norms. It is argued that the demand for certain types of enhancements is steeped in morally problematic norms. The concern is that medicine may be sanctioning or perpetuating these problematic norms by offering the enhancing interventions in question. Medicine has certain responsibilities towards society as a whole and enjoys a particularly high status within society. The mere fact that medicine is participating in a practice may therefore be interpreted as the sanctioning of the norms underlying the practice, and may even elevate

the importance of these norms in the eyes of society (Little 1998). The fact that physicians derive financial benefit from their involvement with potentially morally troubling enhancement practices, and thus have a personal interest in perpetuating harmful norms, heightens the moral stakes (Little 1998). To perpetuate or sanction harmful norms would constitute a violation of the principle of non-maleficence.

All that being said, much of the literature regarding enhancement and medicine's complicity with suspect norms relates to the practice of cosmetic surgery and what Little (1998, 163) has described as "suspect norms of appearance" or what Atiyeh et al. (2008, 829) refer to as "a system of control based on the physical representations of gender, age, and ethnicity". It is often argued that by offering these services cosmetic surgeons are complicit in perpetuating these problematic societal norms. Clearly, in the case of cosmetic surgery, there are deeply entrenched and harmful norms surrounding women's value and the extent to which it resides in their appearance (Little 1998). What is troubling about these norms is also the fact that the cost imposed on women who fail to meet it is "excessive, punitive, unfair or cruel" (Little 1998, 166). While there are clearly suspect norms at play in the case of certain enhancements, it is difficult to identify similarly problematic norms in the context of mood enhancement.

The literature on mood enhancement and complicity with potentially suspect norms is extremely sparse. In the case of mood enhancement, at most one could perhaps argue that some personality traits are considered socially undesirable and that individuals who do not comply with these norms are sometimes made to feel like outsiders. If, for example, a very career-driven person requests a mood enhancer to become less sensitive, more competitive, more assertive and so forth, this might be problematic to the extent that "a preference for masculine features in the work setting underwrites a tough competitive mentality and may undermine strategies for social cooperation and communication" (Ravelingien et al. 2009, 154). In this regard, De Grazia (2000, 38) notes that the use of mood enhancers to alter one's personality "reflects our culture's disturbing tendency to valorize hyper-competitiveness and 'designer' personalities". If an introverted person feels compelled to take a mood enhancer to become more outgoing, this might "reflect bad social policy, characterized by the punishment and rejection of those who lack the confidence or interest necessary to be assertive and to engage in comfortable interactions with strangers" (Ravelingien et al. 2009, 154). Kramer (1994, 274) notes:

> [T]he pressure to engage in hyperthymic, high serotonin behaviour precedes the availability of the relevant drugs. The business world already favors the quick over the fastidious. In the social realm, an excess of timidity can lead to isolation. Those environmental pressures leave certain people difficult options: they can suffer, or they can change. Seen from this perspective, thymoleptics offer people an additional avenue of response to social imperatives whose origins have nothing to do with progress in pharmacology.

Likewise, one might consider it troubling that society seems to be obsessed with happiness, which has been elevated to the ultimate goal in life (Schermer et al. 2009). It is claimed that everyone is responsible for creating their own happiness and, as a result, some people feel like failures if they have not reached this perfect goal (Schermer et al. 2009). This concern is what Elliott (1998, 177) is speaking to when he talks about "the tyranny of happiness". Elliott (1998) notes how the idea of self-fulfilment and happiness has become a moral ideal, which can become oppressive if taken to the extreme. With reference to American culture, where this emphasis on personal happiness seems especially pronounced, Elliott (1998, 187) notes:

> It is oppressive in that if you are unhappy or find life unfulfilling, there is something wrong with you, and not only should you pursue happiness, as our founding fathers have instructed us, you should pursue it aggressively. Why? Because if you don't you will be letting yourself down, you will be wasting your time you have on this earth. And if that means taking Prozac, so be it. In this way happiness is not just your right; it's your duty.

De Grazia (2005b) suggests that, given the differences between the various types of potentially morally problematic enhancement technologies and the circumstances of individual patients, the only way to address this concern is on a case-by-case basis. In this regard, De Grazia (2005b) suggests that physicians should ask themselves two questions in every case. Firstly, to what extent is the use of mood enhancements tied to and supportive of a clearly unjust norm? In order to be morally suspect, one would have to be able to demonstrate that the norm in question is in fact unjust and, furthermore, that mood enhancement is socially related to the norm. For example, can it be said that cosmetic psychopharmacology is socially related to a harmful norm in a manner that is comparable to the way in which cosmetic surgery is part of the source of women's suffering, which is rooted in sexist and misogynist norms? Secondly, what would be the nature of the cost involved if the patient chose not to comply with the norm

in question? In order words, to what extent, if at all, would the patient suffer harm, lose opportunities and so forth, should he or she chose not to take a mood enhancer?

Unlike the relationship between cosmetic surgery and harmful norms of appearance, the relationship between unjust social norms and mood enhancement is not as clear. The cause of the unfairness underlying some requests for mood enhancement cannot convincingly be described as deeply connected with an individual physician or patient's actions (Schermer et al. 2009). It is also not clear whether the norms in question are in fact deeply morally problematic and intrinsically unjust. While some may consider society's emphasis on individual happiness to be problematic, it is not clear that these norms are necessarily unjust in a way that is comparable to harmful norms of appearance (Schermer et al. 2009). This view is persuasive, especially if one associates injustice with large-scale systemic disadvantage. It cannot be convincingly argued that people who are just a little socially awkward, shy or passive suffer injustice on a large or systemic scale. In this regard, what critics like Little (1998) and others find troubling about cosmetic surgery is the fact that the norms of appearance are steeped in injustice and a broader system of attitudes that are not just morally troubling, but also lead to unfair disadvantage (Parens 1998). This is not clearly the case in the context of socially undesirable personality traits. As far as the second question about the cost of forgoing the enhancement is concerned, De Grazia (2005b) states that a physician would have to carefully consider the individual patient's circumstances, including the availability of acceptable alternatives that reduce or eliminate the costs. For example, if a shy patient wishes to use a mood enhancer to become more outgoing, therapy may be suggested as an alternative, especially if the problem is actually rooted in a warped self-esteem. On the other hand, sometimes the cost of resisting social pressure to take a mood enhancer may be too high, especially if there are no viable alternatives (De Grazia 2005b). For example, if the patient has been in therapy for months or years without experiencing much benefit, at some stage one must ask oneself how long in therapy is too long? In such cases taking a mood enhancer would likely also be a more financially viable option for the patient.

Furthermore, although De Grazia (2000) concedes that society overvalues certain personality traits above others, this is a broader cultural concern and should not interfere with an individual patient's life project or project of self-creation. Although human suffering may have multifaceted social roots, it is not clear why the source of the suffering should be determinative if the physician has the means available to relieve such suffering (Parens 1998). There may be

broader moral concerns at play, but these are not necessarily relevant in a direct and urgent sense in the context of the individual physician-patient relationship. It seems somewhat paternalistic to elevate medicine to a kind of moral guidepost for the rest of society, especially if the individual patient's values and projects are undermined as a result. Instead, the most humane course of action may be to put these broader moral concerns aside for a moment and, based on considerations of beneficence and autonomy, do what is possible to relieve the individual patient's suffering (Little 1998). Moreover, medicine's ethical duty towards society is typically framed as a duty to help safeguard public health and educate the public about health threats, not social effects that are unconnected to health outcomes (Ravelingien et al. 2009). Obviously, it would be problematic if physicians influence patients into believing that they have a problem that they did not realise they had before or prey on patient insecurities (De Grazia 2005b; Schermer et al. 2009). For example, if a patient is made to feel that his or her shyness is socially unattractive and that it should be fixed, such conduct on the part of the physician would constitute a violation of the principle of non-maleficence (assuming that this personality trait did not bother the patient before). This is an especially pertinent concern if one considers the fact that physicians will have a financial stake in the prescription of mood enhancers. Physicians are increasingly being seen as employees in terms of a commercialised fee-for-service model and many psychiatrists already practise on this basis (Ravelingien et al. 2009). Ravelingien et al. (2009, 154) note that "the organizational infrastructure to support the economic interests involved in cosmetic neurology potentially already exists". However, it is entirely different when a patient chooses to embark on a project of self-creation of their own volition, fully aware of the underlying norms that may or may not be involved. Ultimately each case should be assessed on its own merits. In this sense the concerns regarding complicity are compatible with the prescription and use of mood enhancers.

4.5 Justice

The concept of justice is associated with ideas about what is fair, equitable and fitting treatment, having regard to what is due or owed to others (Beauchamp and Childress 2013). As with all enhancement technologies, justice-based concerns surrounding mood enhancement revolve primarily around issues of distributive justice. Distributive justice in the context of biomedical ethics is concerned with fair access to and distribution of scarce health resources.

4.5.1 Fair Access and Distribution

One of the concerns regarding mood enhancement is that it will not be available to everyone and that it may exacerbate existing inequalities. As with most new technologies, it may be expensive and only the wealthy will have knowledge of and access to such technologies. The strict treatment-enhancement distinction is deeply entrenched and likely to persist. This means that the uninsured, or those with insurance plans that only cover medication prescribed for diagnosable mental disorders, will have to pay out of pocket for these technologies (De Grazia 2000). The result is that mood enhancement technologies are likely to only be available to individuals who are already better off than most, which may increase the existing gap between the haves and the have-nots.

Although concerns about fair access are valid, the unfairness is the result of a particular economic system, not an individual patient or physician's choice to request or prescribe a mood enhancer (De Grazia 2000). Society is defined by inequity and few would find it reasonable to restrict access and advances in health and wellbeing based solely on potential inequality in distribution (Farah et al. 2004). Unequal distribution is not an accepted ground for limiting or prohibiting other forms of enhancement or elective interventions (for example, cosmetic surgery) where access depends on willingness and ability to pay (Farah et al. 2004). Even if unequal access and distribution of mood enhancers proved to be a serious problem, it does not follow that there is anything intrinsically unethical about mood enhancement (Synofzik 2009). These concerns would, instead, only present extrinsic arguments against mood enhancement. As such, the solution to the problem would have to address the societal conditions that facilitate an unjust system of access and distribution, rather than the regulation of the industry by individual doctors (Synofzik 2009). As Synofzik (2009, 96) notes: "This question can and should not be answered on (the micro-) level of physician-patient decision-making, but requires an extensive analysis of regulation practices on macro-levels of allocation."

Maximising access to enhancement technologies would require a fundamental shift in the way that society thinks about the ends of medicine. For example, subsidising enhancement for the poor may be a worthwhile option, but the idea is unlikely to gain traction unless a major shift occurs in both the way medicines are developed and licenced, as well as the view that enhancement is not a legitimate end of medicine (Liao and Roache 2011). Although physicians

should advocate for greater justice in the distribution of healthcare resources, doing so is compatible with individual patients using mood enhancers (De Grazia 2000).

4.6 Conclusion

All things considered, mood enhancement per se is not irreconcilable with any of the principles of biomedical ethics and there are not any convincing empirical or conceptual reasons to believe that mood enhancement will necessarily violate any ethical principles. Nevertheless, certain broad concerns regarding possible violations of ethical principles have been highlighted and, depending on the circumstances, mood enhancement could violate certain of these ethical principles. When deciding whether or not to prescribe a mood enhancer, physicians will thus have to ensure that the intervention benefits the patient (beneficence), does not harm the patient (non-maleficence), and is reconcilable with the patient's preferences and self-determination (respect for autonomy) (Synofzik 2009). This assessment can only be done on a case-by-case basis and will have to be nuanced and context specific.

Chapter 5
Conclusion

This dissertation ultimately sought to argue that mood enhancement should enjoy recognition as a legitimate goal of medicine. However, mood enhancement, as a form of enhancement, is generally considered to fall beyond the realm of medicine proper in terms of a so-called not-medicine approach. It was illustrated in Chapter 2 of this dissertation that the not-medicine approach is based on a strict distinction between treatment, which is aimed at the correction of diseases, disabilities or impairments, on the one hand, and enhancement, which is aimed at the improvement of normal human traits and functions, on the other. This distinction, in turn, is based on a normative understanding of normal (species-typical) functioning, with diseases being understood as negative deviations from normal functioning. I sought, first of all, to subject this position to critique by critically examining the concept of normal functioning, and, in doing so, illustrating that the concept lacks practical significance and normative force.

To this end, it was argued that the concept of normal functioning is of little assistance in the context of the improvement of psychosocial functions or so-called "limitlessly beneficial personal enhancements" (Juengst 1998, 36). In this regard, it was shown that the normal function approach is premised on the concept of species-typical functioning which, in turn, requires a theoretical account of the "design of the organism" (Daniels 1986, 28). In the context of mood enhancement, which is often aimed at the improvement of socially desirable psychosocial functions, the concept of species-typical functioning is of little assistance. In this regard, with reference to Juengst (1998), it was explained that we lack a theoretical account of psychosocial functions that accurately identifies species-typical functioning. It was furthermore argued what is considered normal or typical of the human species differs across time and populations, and that although biological and clinical factors play a role, social, historical and cultural factors are determinative in the conceptualisation of diseases (Abramowitz 2001; Berghmans et al. 2011). It was further argued that the concept of normality lacks normative force to the extent that it is arbitrary, and may lead to society treating relevantly similar cases differently, thereby preventing society from recognising and responding to its responsibility to relieve human suffering (Daniels 2000; Parens 1998). Several practical examples were discussed to illustrate this point. In the context of mood enhancement, it was shown how a person suffering from a diagnosable psychiatric illness, such as social anxiety disorder, and a healthy person may be equally shy and suffer equally as a result. It was also

argued that the approach lacks practical relevance to the extent that it does not reflect the manner in which contemporary medicine is practiced. In this regard, it excludes many already accepted practices from the sphere of medicine, such as preventative medicine, cosmetic surgery and reproductive health. Furthermore, with reference to Kovács (1998), it was argued that the normal function approach is based on the false premise that health can be inferred from proximity to species design, with diseased organisms regarded as defective machines that differ from their original design. From an evolutionary standpoint, this was shown to be theoretically and practically false, as the environment is constantly changing, and species adapt to these changes. Lastly, it was argued that the normal function approach lacks normative force to the extent that is supposes that the moral right to healthcare, and the goal of medicine, is to restore equality of opportunity by means of restoring normal function. With reference to Harris (2009), it was argued that achieving equal opportunity is not the principal reason for, or even an essential part of a moral right to healthcare. Instead, one intervenes in the natural lottery for reasons that include compassion, beneficence, to prevent harm and to gain benefits.

Having concluded that the not-medicine approach, which is based on a strict distinction between treatment and enhancement, is philosophically untenable, this dissertation suggested an alternative framework for the conceptualisation of enhancement in terms of which treatments and enhancements occur along a continuum of interventions, which are all ultimately aimed at improving human wellbeing. In this regard, with reference to a welfarist framework, it was argued that the moral evaluation of mood enhancement should focus on the question whether or not an intervention tends to increase the recipient's chances of leading a good life in a given set of circumstances, not whether it is aimed at treating a recognised disease. The various benefits of the welfarist approach were discussed, relative to a not-medicine model. In this regard, I illustrated how a welfarist approach forces one to grapple with the real underlying ethical issues, rather than trying to sidestep these difficult questions by drawing arbitrary lines between treatment and enhancement. It was illustrated how a welfarist approach forces one to think deeply about whether specific interventions are actually enhancements, that is, whether they truly improve wellbeing, and to consider why enhancement may be morally undesirable, notwithstanding its positive effect on wellbeing.

Although it was concluded that concepts such as treatment, enhancement, disease and normality cannot perform the required normative work, it was explained that these concepts are not necessarily irrelevant. In this regard, it was illustrated how a welfarist approach leaves

the door open to further ethical analysis and considerations aside from the prudential good, including considerations of justice (Nagel 2014; Zohny 2014). For example, the approach recognises that interventions occur along a spectrum, and that where a particular intervention is situated on the spectrum, relative to other cases, may sometimes be morally relevant (Gyngell and Selgelid 2016). It was argued that it is therefore compatible with a welfarist approach to recognise that clearly therapeutic interventions are more likely to promote equality, relative to interventions that fall closer to the enhancement end of the spectrum, and that there may be good reasons for governments to prioritise such interventions. In the context of mental health, it was argued that pairing welfarist psychiatry with an egalitarian view of distributive justice might require that governments prioritise the treatment of more severe states of psychological disadvantage that have a more serious impact on wellbeing and that traditionally qualify as hard psychiatric disorders (McConnell and Savulescu 2020). Although some criticise a welfarist approach on the basis that it overemphasises individual wellbeing at the expense of other bioethical principles, I therefore concluded that this critique is based on a misunderstanding of what a welfarist approach seeks to achieve.

Having established that the distinction between treatment and enhancement is not of central factual or moral importance, this study then addressed medicine's relationship vis-à-vis enhancement technologies. To this extent, I sought to illustrate that mood enhancement is reconcilable with the traditional ends of medicine, in particular the traditional goal of health promotion. In making this argument, I endorsed a normative (subjectivist) account of health, wherein health is understood to be conceptually related to the concept of happiness and quality of life, and is considered instrumentally valuable to the extent that it contributes to quality of life. With reference to Nordenfelt (1998), it was argued that health is a positive and value-laden concept, which is not simply limited to survival or restoring loss of function. Instead, one is only truly healthy if one's physical and mental state is such that one is able to realise one's most essential goals in life, and to maintain the set of circumstances required for minimal long-term happiness. In turn, one is unhealthy if one's ability to realise one's vital goals is reduced, notwithstanding the absence of any pathology in the biostatistical sense of the word. It was argued that most enhancements are reconcilable with the ends of medicine in terms of such a normative understanding of health, and that it is thus not evident that the goals of medicine should exclude the promotion of wellbeing and happiness. Instead, it was concluded that quality of life and wellbeing should be understood as central values in medicine (Schermer 2013).

Forestalling arguments that mood enhancement is nevertheless incapable of being incorporated as part of the traditional goals of medicine, I then sought to illustrate that these ends may be further developed. In making this argument, an essentialist or inherentist understanding of medicine was subjected to critique. In support of a social constructivist view of medicine, it was submitted that the ends of medicine are intimately connected to the ends of living and social functioning, and are thus not ontologically internal to the practice of medicine (Veatch 2001). It was argued that medicine is undeniably scientifically and socially malleable as physicians and patients are a part of society and, to this extent, one cannot realistically separate the two (Allert et al. 1996b; Schermer 2013). It was argued that an inherentist account of medicine arbitrarily limits the ends of medicine and is irreconcilable with patient autonomy, which is a central value in medical ethics. It was submitted that patient autonomy should, instead, enjoy a central role when defining the ends of medicine to the extent that it has instrumental value as a vehicle for the promotion of the patient's wellbeing and conception of the good life, and is a goal in its own right (Varelius 2006; Juth 2011). However, it was also conceded that there may be dangers to an approach in terms of which medicine is simply reduced to the values and aims of contemporary society. Ultimately, it was concluded that the most plausible account of the interaction between the values and ends of medicine and those of society is likely somewhere in between an inherentist account, on the one hand, and a social constructionist account, on the other. It was concluded that medicine and society should be in a continuous open dialogue with one another in order to identify its respective rights and duties, but that medicine's starting point should be its traditional values and history (Allert et al. 1996b).

This study then went on to suggest a normative framework in terms of which new goals for medicine could be developed. With reference to Brülde (2001), I endorsed a normative framework for the development of the goals of medicine, wherein quality of life plays a central role. With reference to Brülde (2001), it was argued that, upon careful examination of the traditional goals of medicine, these goals are not valuable or valid per se. Instead, they are recognised as essential to the extent that they promote quality of life and/or increase a patient's length of life. As such, when developing the goals of medicine, any further goals should be instrumental to achieving quality of life and/or an increase in the length of a patient's life, provided that the patient considers it a life worth living. If one understands quality of life in terms of wellbeing, or the value that a patient attaches to his or her own life, developing the

goals of medicine to include mood enhancement may be acceptable within this broader normative framework.

In Chapter 4, mood enhancement was discussed in the context of a principlist framework. Although it had been concluded that mood enhancement is not unethical or irreconcilable with the goals of medicine per se, it was conceded that there may nevertheless be good reasons for prohibiting physicians from providing mood enhancers, or similar interventions, to their patients in specific circumstances. In this regard, it was suggested that the principles of biomedical ethics – autonomy, beneficence, non-maleficence and justice – should function as a guide to determine whether physicians should be permitted to provide particular enhancing interventions on a case-by-case basis.

Insofar as the principle of autonomy is concerned, it was argued that the fear that mood enhancement may lead to inauthenticity is largely unfounded. With reference to Juth (2011), it was submitted that the authenticity concern can be interpreted in three ways. Firstly, that mood enhancement might change one's numerical identity. Secondly, that mood enhancement leads to feelings of wellbeing or happiness that are inappropriate or unintelligible. Lastly, that mood enhancement will permanently alter one's narrative identity. With reference to Berghmans et al. (2011) was argued that the concern about numerical identify is unfounded for two reasons. Firstly, none of the technologies currently available on the market are capable of affecting individual identity on such a drastic scale. Secondly, nothing can change one's numerical identity, which will always remain the same despite the qualitative changes one inevitably undergoes throughout the course of one's life. Insofar as it relates to the argument from unintelligibility, it was argued that this concern bears little relation to authenticity. It is not evident why a patient will not be able to understand an improvement in his or her mood as causally connected to the use of a mood enhancer. Instead, it would be quite typical and normal for a person to understand how their own bodily changes may affect their emotional states (Juth 2011). It was acknowledged that powerful mood enhancers may very well affect narrative identity. However, it was argued that a mood enhancement induced change in narrative identity is not necessarily irreconcilable with authenticity, provided that the patient autonomously consented to the intervention and was aware of the possible changes that may be occasioned by the intervention (De Grazia 2005a; Liao and Roache 2011). Furthermore, it was argued that mood enhancement could be autonomy-enhancing, and may constitute a powerful expression

of agency, to the extent that it in fact allows one to become one's authentic self (Levy 2011; Schermer 2007; De Grazia 2005b).

The concern that mood enhancers might undermine one's capacity for developing self-knowledge and understanding, thereby undermining one's authenticity and autonomy, was also addressed (Liao and Roache 2011). Although these concerns are largely speculative and have a partly empirical nature, it was conceded that taking a mood enhancer may in certain circumstances compromise patient autonomy in a global sense (Berghmans et al. 2011). It was emphasised that physicians therefore have an ethical duty to make patients aware of the fact that there are different treatment modalities, and that their predicament may be better addressed with therapy, or a combination of therapy and drugs, in certain circumstances. However, I ultimately rejected a paternalistic approach and concluded that properly informed and autonomous patients should be permitted to forego a deeper sense of self-understanding, unless the prescription of a mood enhancer would violate the principle of non-maleficence, that is, in cases where there is a large discrepancy between expected benefits and harms.

Concerns regarding the autonomy of the request for mood enhancement were also addressed. It was ultimately concluded that although the concerns regarding internal and external pressures are valid, being influenced by societal norms does not equal coercion (Buyx 2008). With reference to De Grazia (2005b), it was argued that the choice to take a mood enhancer should be considered autonomous, provided that the patient's underlying motivation is not rooted in influences that he or she would, upon careful reflection, consider alienating. Furthermore, it was submitted that the risk of social coercion is less pronounced in mood enhancement, which does not hold an obvious competitive benefit. It was illustrated that mood enhancement is, instead, typically aimed at achieving wellbeing or happiness for its own sake, as it is intrinsically valuable as an absolute good, independent of the pattern of distribution (Palk and Stein 2020). Ultimately, although social coercion is undesirable, it was concluded that it would be at least an equal, and arguably a worse, infringement on autonomy and liberty to restrict access to mood enhancing technologies simply because of the speculative risk of social coercion (Farah 2002). It was shown that these concerns are also largely empirical in nature and there is a dearth of research into the quality of patient autonomy in cases of requests for enhancements (Buyx 2008). Without such empirical information, it was submitted that there is not a principled method by which to make any assumptions about patient autonomy in these contexts and each case will have to be evaluated on its own merits (Buyx 2008). It was

concluded that concerns surrounding the autonomy of the request for mood enhancement are capable of being adequately addressed by means of a rigorous and autonomy-promoting informed consent process.

Insofar as the principle of beneficence is concerned, the concern that mood enhancement is based on a purely hedonistic understanding of wellbeing, and that mood enhancers may prevent one from appropriately responding to negative affective reasons, was addressed. In this regard, it was argued that mood enhancers, at least those currently available on the market, do not directly result in hedonistic bliss (Beck and Stroop 2015). Instead, mood enhancers typically provide an indirect avenue to wellbeing by allowing one to better appreciate positive affective reasons, or not to respond irrationally or overreact to negative affective reasons (Kahane 2011; Beck and Stroop 2015). With reference to Kahane (2011), it was submitted that this argument provides especially convincing support for mood enhancement in a certain subset of users, namely individuals whose affective dispositions generally point in a negative direction, or who are naturally more morose. Reference was also made to the large body of empirical evidence that one's affective dispositions generally do not perfectly reflect and respond to one's affective reasons and that, instead, emotions are largely shaped by innate and irrational factors (Kahane 2011). Similarly, considering the fact that mood enhancers are often taken to develop more socially desirable personality traits, it was argued that mood enhancement promotes wellbeing in an indirect sense only (Stroop 2016). Far from directly leading to subjective and irrational hedonistic bliss, it was argued that mood enhancers actually allow one to more effectively pursue objective goods. It was concluded that the priority for affective reasons therefore cannot be used as a blanket argument against mood enhancement, especially if these technologies are capable of increasing the ability to recognise and respond to positive affective reasons. As such, it was concluded that there may be convincing affective and hedonistic reasons to promote mood enhancement. To the extent that mood enhancing technologies enable one to better respond to affective reason, mood enhancement was found to be entirely reconcilable with all major theories of wellbeing.

In the context of the principle of non-maleficence, the concern that mood enhancement has not been proven to be safe, was addressed. In particular, the argument that taking health risks is only justified in cases where there is a clear therapeutic benefit, was rejected. With reference to Harris (2009), it was argued that instead of asking whether or not the trait one seeks to improve is normal or a symptom of a disease, the question one should be asking is whether or

not it is worthwhile to take a mood enhancer, given the expected benefits and harms. Furthermore, it was argued that whether or not it is worthwhile to take health risks also depends on whether the harms and benefits will affect an individual or the entire population (Harris 2009). It was submitted that in the context of mood enhancement and the individual physician-patient relationship, the goods being pursued, as well as potential harms incurred, relate solely to the individual patient. It was concluded that in such cases, it should be up to the individual patient to decide whether the harm-benefit ratio is acceptable and strong priority should be given to the principle of respect for patient autonomy (Harris 2009). It was, however, acknowledged that the principle of non-maleficence may nevertheless prohibit physicians from prescribing a mood enhancer in circumstances where the expected harms outweigh the expected benefits to a disproportionate extent (Synofzik 2009). Ultimately, the importance of a balanced and autonomy-promoting discussion of harms and benefits was emphasised, and it was concluded that the assessment of risks and benefits must occur on a case-by-case and individualised basis (De Grazia 2000).

The concern that mood enhancers are harmful to the extent that they promote suspect norms, was addressed. Although it was acknowledged that the request for mood enhancement may be motivated by certain harmful beliefs, it was concluded that this concern does not justify a blanket prohibition of mood enhancement technologies. Instead, it was argued that physicians should approach each case on its own merits by considering to what extent the request reinforces a morally unjust norm and, furthermore, whether refusing the enhancer will be fair, given the nature of the cost involved if the patient chose not to comply with the norm in question (De Grazia 2005b). It was concluded that the cause of the unfairness underlying some requests for mood enhancement cannot convincingly be described as deeply morally problematic and intrinsically unjust. As far as the cost of forgoing the enhancement is concerned, it was submitted that physicians will have to carefully consider the individual patient's circumstances, including the availability of acceptable alternatives that reduce or eliminate the costs (De Grazia 2005b). Ultimately, it was concluded that broader cultural concerns regarding the norms underlying the request for mood enhancement should not interfere with an individual patient's life project or project of self-creation, and that the source of a patient's personal suffering should not prevent a physician from providing available relief (Parens 1998). Instead, it was concluded that the most humane course of action may be to put these broader moral concerns aside and, based on considerations of beneficence and autonomy, do what is possible to relieve the individual patient's suffering (Little 1998).

Lastly, concerns surrounding justice, in particular the fair distribution of resources, and mood enhancement were briefly discussed. From the outset, the position was adopted that the principle of justice plays a lesser role in the context of the individual physician-patient relationship, and that justice-based concerns present only extrinsic arguments against mood enhancement. It was concluded that although concerns about justice and access are generally valid, the unfairness is the result of a particular economic system, not an individual patient or physician's choice to request or prescribe a mood enhancer (De Grazia 2000). With reference to Synofzik (2009), it was concluded that even if unequal access and distribution of mood enhancers proved to be a serious problem, it does not follow that there is anything intrinsically unethical about mood enhancement, or that individuals who are able to afford these technologies should be prevented from enjoying its benefits. Instead, the solution to the problem would have to address the societal conditions that facilitate an unjust system of access and distribution, rather than the regulation of the industry by individual doctors.

Ultimately, after examining mood enhancement within the context of a principlist framework, I have concluded that mood enhancement is not inherently irreconcilable with any principles of biomedical ethics. However, a context-sensitive approach must be adopted, and each request for mood enhancement ought to be evaluated on its own merits.

References

Allen, D. B. and Fost, N. C. 1990. “Growth Hormone Therapy for Short Stature: Panacea or Pandora’s Box?” *Journal of Paediatrics*, 117: 16–21.

Allert, G., Blasszauer, B., Boyd, K., and Callahan, D. 1996a. “The Goals of Medicine: Specifying the Goals of Medicine.” *The Hastings Center Report*, 26(6): S9–S14.

Allert, G., Blasszauer, B., Boyd, K., and Callahan, D. 1996b. “The Goals of Medicine: Medicine and Society.” *The Hastings Center Report*, 26(6): S6 – S8.

Allert, G., Blasszauer, B., Boyd, K., and Callahan, D. 1996c. “The Goals of Medicine: Setting New Priorities.” *The Hastings Center Report*, 26(6): S1–S27.

American Psychiatric Association. 2013. *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*. American Psychiatric Publishing.

Aronowitz, R. A. 2001. “When Do Symptoms Become a Disease?” *Annals of Internal Medicine*, 134: 803–808.

Atiyeh, B. S., Rubeiz, M. T. and Hayek, S. N. 2008. “Aesthetic/Cosmetic Surgery and Ethical Challenges.” *Journal of Aesthetic and Plastic Surgery*, 32: 829–839.

Beauchamp, T. 2019. "The Principle of Beneficence in Applied Ethics." In *The Stanford Encyclopedia of Philosophy, Spring 2019 Edition,* edited by E. N. Zalta. Metaphysics Research Lab, Stanford University.
URL = <https://plato.stanford.edu/archives/spr2019/entries/principle-beneficence/>.

Beauchamp, T. L. and Childress, J. F. 2013. *Principles of Biomedical Ethics, 7th Edition*. Oxford University Press.

Beck, B. and Stroop, B. 2015. “A Biomedical Shortcut to (Fraudulent) Happiness? An Analysis of the Notions of Well-being and Authenticity Underlying Objections to Mood Enhancement.”

In *Well-being in Contemporary Society*, edited by J. H. Søraker, J. W. V. Rijt, J. der Boer, P. H. de Wong and P. Brey. 115–134. Springer International Publishing.

Berghmans, R., ter Meulen, R., Malizia, A. and Vos, R. 2011. "Scientific, Ethical, and Social Issues in Mood Enhancement." In *Enhancing Human Capacities*, edited by J. Savulescu, R. ter Meulen and G. Kahane. 153–166. Blackwell Publishing.

Bess, M. 2010. "Enhanced Humans Versus 'Normal People': Elusive Definitions." *Journal of Medicine and Philosophy*, 35: 641–655.

Bjorklund, P. 2005. "Can There Be A 'Cosmetic' Psychopharmacology? Prozac Unplugged: The Search For An Ontologically Distinct Cosmetic Psychopharmacology." *Nursing Philosophy*, 6(2): 131–143.

Blumenthal, J. A., Babyak, M. A., Moore, K. A. and Craighead, W. E. 1999. "Effects of Exercise Training on Older Patients with Major Depression." *Archives of Internal Medicine*, 159: 2349–2356.

Bolt, L. L. E. 2007. "True to Oneself? Broad and Narrow Ideas on Authenticity in the Enhancement Debate." *Theoretical Medicine and Bioethics*, 28:285–300.

Boorse, C. 1977. "Health as a Theoretical Concept." *Philosophy of Science*, 44(4): 542–573.

Boorse, C. 1997. "A Rebuttal on Health." In *What is Disease*, edited by J. M. Humber and R. F. Almeder. 1–134. Springer Science + Business Media, LLC.

Bostrom, N. 2008. "Why I Want To Be Posthuman When I Grow Up." In *Medical Enhancement and Posthumanity*, edited by B. Gordijn and R. Chadwick. 107–136. Springer.

Bostrom, N. and Roache, R. 2008. "Ethical issues in Human Enhancement." *New Waves in Applied Ethics*, 120–152.

Bostrom, N. and Roache, R. 2011. "Smart Policy: Cognitive Enhancement and the Public Interest." In *Enhancing Human Capacities*, edited by J. Savulescu, R. ter Meulen and G. Kahane. 138–152. Blackwell Publishing.

Brickman, P., Coates, T. and Janoff-Bulman, R. 1978. "Lottery Winners and Accident Victims: Is Happiness Relative?" *Journal of Personality and Social Psychology*, 36: 917–927.

Brock, D. W. 1998. "Enhancements of Human Function: Some Distinctions for Policymakers" In *Enhancing Human Traits: Ethical and Social Implications*, edited by E. Parens. 48–69. Georgetown University Press.

Brülde, B. 2001. "The Goals of Medicine. Towards a Unified Theory." *Health Care Analysis*, 9: 1–13.

Buyx, A. M. 2008. "Be Careful What You Wish For? Theoretical and Ethical Aspects of Wish-Fulfilling Medicine." *Medicine, Health Care and Philosophy*, 11(2): 133–143.

Chatterjee, A. 2007. "Cosmetic Neurology and Cosmetic Surgery: Parallels, Predictions, and Challenges." *Cambridge Quarterly of Healthcare Ethics*, 16(2): 129–137.

Coenen, C., Schuijff, M. and Smits, M. 2011. "The Politics of Human Enhancement and the European Union." In *Enhancing Human Capacities*, edited by J. Savulescu, R. ter Meulen and G. Kahane. 521–536. Blackwell Publishing.

Cooper, M. H. 1994. "Prozac: Are Drugs Treating Mental Illness Being Used Too Freely?" *CQ Researcher*, 4: 721–744.

Daniels, D. 1986. *Just Health Care*. New York: Cambridge University Press.

Daniels, N. 1994. "The Genome Project, Individual Differences, and Just Health Care." In *Justice and the Human Genome Project*, edited by F. Murphy and M. A. Lappe. 110–132. Berkeley: University of California Press.

Daniels, N. 2000. “Normal Functioning and the Treatment-Enhancement Distinction.” *Cambridge Quarterly of Healthcare Ethics*, 9: 309–322.

Daniels, N. 2009. “Can Anyone Really be Talking About Ethically Modifying Human Nature?” In *Human Enhancement*, edited by J. Savulescu and N. Bostrom. 25–42. Oxford University Press.

De Grazia, D. 2000, "Prozac, Enhancement, and Self-Creation", *The Hastings Center Report*, 30(2): 34–40.

De Grazia, D. 2005a. Enhancement Technologies and Human Identity. *Journal of Medicine and Philosophy: A Forum for Bioethics and Philosophy of Medicine*, 30(3): 261–283.

De Grazia, D. 2005b. *Human Identity and Bioethics*. New York: Cambridge University Press.

Dillon, R. S. 1992. “Toward a Feminist Conception of Self-Respect.” *Hypatia*, 7(1): 52–69.

Earp, B., Sandberg, A., Kahane, G. and Savulescu, J. 2014. “When is Diminishment a Form of Enhancement? Rethinking the Enhancement Debate in Biomedical Ethics.” *Frontiers in Systems Neuroscience*, 8(12): 1–7.

Elliott, C. 1998. “The Tyranny of Happiness: Ethics and Cosmetic Psychopharmacology.” In *Enhancing Human Traits: Ethical and Social Implications*, edited by E. Parens. 177–188. Georgetown University Press.

Elliot, C. 1999. “Prozac and the Existential Novel: Two Therapies.” In *The Last Physician: Walker Percy & the Moral Life of Medicine*, edited by C. Elliott and J. Lantos. 59–69. Duke University Press.

Elliott, C. 2000. "Pursued by Happiness and Beaten Senseless: Prozac and the American Dream.” *The Hastings Center Report*, 30(2): 7–12.

Erler, A. 2017. "The Limits of the Treatment-Enhancement Distinction as a Guide to Public Policy." *Bioethics* 31(8): 608–615.

Farah, M. J. 2002. “Emerging Ethical Issues in Neuroscience.” *Nature Neuroscience*, 5(11): 1123–1129.

Farah, M. J., Illes, J., Cook-Deegan, R., Gardner, H., Kandel, E., King, P., Parens, E., Sahakian, B. and Wolpe, P. R., 2004. “Neurocognitive Enhancement: What Can We Do and What Should We Do?” *Nature Reviews Neuroscience*, 5(5):421–425.

Finkelstein, J. 1991. *The Fashioned Self.* Philadelphia: Temple University Press.

Frankford, D. M. 1998. “The Treatment/Enhancement Distinction as an Armament in the Policy Wars.” In *Enhancing Human Traits: Ethical and Social Implications*, edited by E. Parens. 70–94. Georgetown University Press.

Freedman, C. 1998. “Aspirin for the Mind? Some Ethical Worries About Psychopharmacology.” In *Enhancing Human Traits: Ethical and Social Implications*, edited by E. Parens. 135–150. Georgetown University Press.

Freitas Jr., R. A. 1999. *Nanomedicine, Volume I: Basic Capabilities*. Georgetown, TX: Landes Bioscience.

Fujita, F. and Diener, E. 2005. “Life Satisfaction Set Point: Stability and Change.” *Journal of Personality and Social Psychology*, 88: 158–164.

Giubilini, A. and Sanyal, S. 2016. “Challenging Human Enhancement.” In *The Ethics of Human Enhancement: Understanding the Debate*, edited by S. Clarke, J. Savulescu, C. A. J. Coady, A. Giubilini and S. Sanyal, 1–26. Oxford University Press.

Goldie, P. 2000. *The Emotions: A Philosophical Exploration*. Oxford: Clarendon Press.

Goldsmith, H. H. 1983. “Genetic Influences on Personality from Infancy to Adulthood.” *Child Development*, 54: 331–355.

Gracia, D. 1999. “What Kind of Values? A Historical Perspective on the Ends of Medicine.” In *The Goals of Medicine: The Forgotten Issues in Health Care Reform*, edited by M. J. Hanson and D. Callahan. 88–100. Georgetown University Press.

Gyngell, G. and Selgelid, M. J. 2016. “Human Enhancement: Conceptual Clarity and Moral Significance.” In *The Ethics of Human Enhancement: Understanding the Debate*, edited by S. Clarke, J. Savulescu, C. A. J. Coady, A. Giubilini and S. Sanyal, 111–126. Oxford University Press.

Hall, S. 2012. *Harm and Enhancement: Philosophical and Ethical Perspectives*. Doctoral dissertation, Stellenbosch: Stellenbosch University.

Hansen, J. L. 2015. “A Virtue-Based Approach to Neuro-Enhancement in the Context of Psychiatric Practice.” In *The Oxford Handbook of Psychiatric Ethics*, edited by J. Z. Sadler, K. W. M. Fulford, and C. W. van Staden. Oxford University Press.

Harris, J. 2009. “Enhancement as a Moral Obligation.” In *Human Enhancement*, edited by J. Savulescu and N. Bostrom. 131–154. Oxford University Press.

Hofmann, B. 2017 “Limits to Human Enhancement: Nature, Disease, Therapy or Betterment?” *BMC Medical Ethics*, 18(56): 1–11.

Hofmann, B. 2019. “Human Enhancement: Enhancing Health or Harnessing Happiness?” *Journal of Bioethical Inquiry*, 16(1): 87–98.

Huxley, A. 1932. *Brave New World*. Penguin Books Ltd.

Hyun, I. 2001. ‘‘Authentic Values and Individual Autonomy.’’ *The Journal of Value Inquiry*, 35: 202–208.

Jennings, B. 2007. “Autonomy.” In *The Oxford Handbook of Bioethics*, edited by B. Steinbock. 72–89. Oxford University Press.

Juengst, E. T. 1997. "Can Enhancement be Distinguished from Prevention in Genetic Medicine?" *The Journal of Medicine and Philosophy*, 22:125–142.

Juengst, E. T. 1998. "What Does Enhancement Mean?" In *Enhancing Human Traits: Ethical and Social Implications*, edited by E. Parens. 29–47. Georgetown University Press.

Juth, N. 2011. "Enhancement, Autonomy, and Authenticity." In *Enhancing Human Capacities*, edited by J. Savulescu, R. ter Meulen and G. Kahane. 34–49. Blackwell Publishing.

Kahane, G. 2011. "Reasons to Feel, Reasons to Take Pills." In *Enhancing Human Capacities*, edited by J. Savulescu, R. ter Meulen and G. Kahane. 166–178. Blackwell Publishing.

Kass, L. 2003. *Beyond Therapy: Biotechnology and the Pursuit of Happiness. A Report by the President's Council on Bioethics*. New York: Regan Books.

Kheriaty, A. and Greeks, H. 2006. *Cosmetic Drugs for Mental Makeovers: Antidepressants and Our Discontents*. Paper presented at "Continuity + Change: Perspectives on Science and Religion", held on June 3–7, 2006. Philadelphia, PA, USA.

Kirsch, I., Deacon, B. J., Huedo-Medina, T. B., Scoboria, A., Moore, T. J. and Johnson, B. T. 2008. "Initial Severity and Antidepressant Benefits: A Meta-Analysis of Data Submitted to the Food and Drug Administration." *PLoS Medicine*, 5(2): e45.

Klerman, G. L. 1972. "Psychotropic Hedonism vs. Pharmacological Calvinism." *Hastings Center Report*, 1–3.

Knutson, B., Wolkowitz, O. M. and Cole, S. W. 1998. "Selective Alteration of Personality and Social Behavior by Serotonergic Intervention." *American Journal of Psychiatry*, 155: 373–379.

Koch, M. 2013. "From Treating Mental Dysfunction to Neuroenhancement." In *Human Happiness and the Pursuit of Maximization. Is More Always Better?* edited by H. Brockman and J. Delhey. 101–114. Springer.

Kovács, J. 1998. “The Concept of Health and Disease.” Medicine, Healthcare & Philosophy, 1: 31–39.

Kraemer, F. 2011. “Authenticity Anyone? The Enhancement of Emotions via Neuro-Psychopharmacology.” *Neuroethics*, 4:51–64

Kramer, P. D. 1994. *Listening to Prozac.* London: Fourth Estate Limited.

Landeweerd, L. 2011. “Asperger’s Syndrome, Bipolar Disorder and the Relation Between Mood, Cognition, and Well-Being.” In *Enhancing Human Capacities*, edited by J. Savulescu, R. ter Meulen and G. Kahane. 207–218. Blackwell Publishing.

Larriviere, D., Williams, M. A., Rizzo, M., Bonnie, R. J. 2009. “Responding to Requests from Adult Patients for Neuroenhancements: Guidance of the Ethics, Law and Humanities Committee.” *Neurology*, 73(17): 1406–1412.

Laurence, J. H. and Carlisle, J. A. 2018. “The Ethics of Human Enhancement: An Overview and Framework.” In *Human Performance Optimization: The Science and Ethics of Enhancing Human Capabilities*, edited by M. D. Matthews and D. M. Schnyer. 403–424. Oxford University Press.

Levy, N. 2011. “Enhancing Authenticity.” *Journal of Applied Philosophy*, 28(3): 308–318.

Liao, M. S. and Roache, R. 2011. “After Prozac.” In *Enhancing Human Capacities*, edited by J. Savulescu, R. ter Meulen and G. Kahane. 245–258. Blackwell Publishing.

Little, M. O. 1998. “Cosmetic Surgery, Suspect Norms, and the Ethics of Complicity.” In *Enhancing Human Traits: Ethical and Social Implications*, edited by E. Parens. 162–176. Georgetown University Press.

MacIntyre, A. 1981. *After virtue.* Indiana: University of Notre Dame Press.

McConnell, D. and Savulescu, J. 2020. “Welfarist Psychiatry Goes Global.” In *Global Mental Health and Neuroethics*, edited by D. J. Stein and I. Singh. 37–54. Academic Press.

Miller, F. G. and Brody, H. 2001. "The Internal Morality of Medicine: An Evolutionary Perspective." *Journal of Medicine and Philosophy*, 26(6): 581–599.

Mischel, W., Shoda, Y. and Peake, P. K. 1988. "The Nature of Adolescent Competencies Predicted by Preschool Delay of Gratification." *Journal of Personality and Social Psychology*, 54(4): 687–696.

Mitchell, C. B., Pellegrino, E. D., Elshtain, J. B., Kilner, J. F. and Rae, S. B. 2007. "Biotechnology, Human Enhancement and the Ends of Medicine." In *Biotechnology and the Human Good*, edited by C. B. Mitchell, E. D. Pellegrino, J. B. Elshtain, J. F. Kilner, and S. B. Rae. 110–136. Georgetown University Press.

Moncrieff, J., Wessely, S., Hardy, R. 2004. "Active Placebos Versus Antidepressants for Depression." *Cochrane Database of Systematic Reviews*. 3: 1–31.

Moynihan, R. and Henry, D. 2006. "The Fight Against Disease Mongering: Generating Knowledge for Action." *PLOS Medicine*, 3(4): 0425–0428.

Mulgan, T. 2007. *Understanding Utilitarianism*. Acumen.

Murray, T. H. 2007. "Enhancement." In *The Oxford Handbook of Bioethics*, edited by B. Steinbock. 491–515. Oxford University Press.

Nagel, S. K. 2014. "Enhancement for Well-being is Still Ethically Challenging." *Frontiers in Systems Neuroscience*, 8(72): 1–4.

Nordenfelt, L. 1998. "On Medicine and Health Enhancement – Towards a Conceptual Framework." *Medicine, Health Care and Philosophy*, 1: 5–12.

Nordenfelt, L. 2004. "The Logic of Health Concepts." In *Handbook of Bioethics: Taking Stock of the Field from a Philosophical Perspective*, edited by G. Khushf. 205–222. Kluwer Academic Publishers.

Nordenfelt, L. 2007. "The Concepts of Health and Illness Revisited." *Medicine, Health Care and Philosophy*, 10(1): 5–10.

Nozick, R. 1974. *Anarchy, State and Utopia*. New York: Basic Books.

Nussbaum, M. 2000. *Women and Human Development: The Capabilities Approach*. Cambridge University Press.

Palk, A. C. and Stein, D. J. 2020. "Cosmetic Psychopharmacology in a Global Context." In *Global Mental Health and Neuroethics*, edited by D. J. Stein and I. Singh. 95–115. Academic Press.

Parens, E. 1998. "Is Better Always Good? The Enhancement Project." In *Enhancing Human Traits: Ethical and Social Implications*, edited by E. Parens. 1–29. Georgetown University Press.

Pellegrino, E. D. and Thomasma, D. C. 1981. *A Philosophical Basis of Medical Practice: Toward a Philosophy and Ethic of the Healing Professions*. Oxford University Press.

Pellegrino, E. D. 1999. "The Goals of Medicine: How are They to be Defined?" In *The Goals of Medicine: The Forgotten Issues in Health Care Reform*, edited by M. J. Hanson and D. Callahan. 55–68. Georgetown University Press.

Pellegrino, E. D. 2001. "The Internal Morality of Clinical Medicine: A Paradigm for The Ethics of The Helping and Healing Professions." *Journal of Medicine and Philosophy*, 26(6): 559–579.

Percy, W. 1983. *Lost in the Cosmos*. New York: Washington Square Press.

Ravelingien, A., Braeckman, J., Crevits, L., De Ridder, D. and Mortier, E. 2009. "'Cosmetic Neurology and the Moral Complicity Argument." *Neuroethics*, 2(3): 151–162.

Roache, R. and Savulsecu, J. 2018. "Psychological Disadvantage and a Welfarist Approach to Psychiatry." *Philosophy, Psychiatry, and Psychology*, 25(4): 245–259.

Sabin, J. E. and Daniels, N. 1994. "Determining 'Medical Necessity' in Mental Health Practice." *Hastings Center Report*, 24(6): 5–13.

Sade, R. M. 1995. "A Theory of Health and Disease: The Objectivist-Subjectivist Dichotomy." *Journal of Medicine and Philosophy*, 20(5): 513–525.

Sandberg, A. 2011. "Cognition Enhancement: Upgrading the Brain." In *Enhancing Human Capacities*, edited by J. Savulescu, R. ter Meulen and G. Kahane. 71–91. Blackwell Publishing.

Sandberg, A. and Savulescu, J. 2011. "The Social and Economic Impacts of Cognitive Enhancement." In *Enhancing Human Capacities*, edited by J. Savulescu, R. ter Meulen and G. Kahane. 92–112. Blackwell Publishing.

Sartre, J. 1955. *Being and Nothingness*. Washington Square Press.

Savulescu, J. 2001. "Procreative Beneficence: Why We should Select the Best Children." *Bioethics*, 15(5–6): 413–426.

Savulescu, J. 2006. "Justice, Fairness and Enhancement." *Annals of the New York Academy of Sciences*, 1093: 321–338.

Savulescu, J. and Kahane, G. 2011. "Disability: A Welfarist Approach." *Journal of Clinical Ethics*, 6:45–51.

Savulescu, J., Sandberg, A. and Kahane. G. 2011. "Well-being and Enhancement." In *Enhancing Human Capacities*, edited by J. Savulescu, R. ter Meulen and G. Kahane. 3–18. Blackwell Publishing.

Schermer, M. 2007. "*Brave New World* versus *Island* – Utopian and Dystopian Views on Psychopharmacology." *Medicine, Health Care and Philosophy*. 10:119–128.

Schermer, M. 2008. "Enhancements, Easy Shortcuts, and the Richness of Human Activities." *Bioethics*, 22(7): 355–363.

Schermer, M. 2013. “Health, Happiness and Human Enhancement – Dealing with Unexpected Effects of Deep Brain Stimulation.” *Neuroethics*, 6(3): 435–445.

Schermer, M. 2015. “Ethics of Pharmacological Mood Enhancement.” In *Handbook of Neuroethics*, edited by J. Clausen and N. Levy. 1177–1190. Springer Reference.

Schermer, M., Bolt, I., de Jongh, R., and Olivier, B. 2009. “The Future of Psychopharmacological Enhancements: Expectations and Policies.” *Neuroethics*, 2(2): 75–87.

Schermer, M. and Bolt, I. 2011. “What’s in a Name? ADHD and the Gray Area Between Treatment and Enhancement.” In *Enhancing Human Capacities*, edited by J. Savulescu, R. ter Meulen and G. Kahane. 179–193. Blackwell Publishing.

Schwartz, P. H. 2005. “Defending the Distinction Between Treatment and Enhancement.” *The American Journal of Bioethics*, 5(3): 17–19.

Scotti, L. 2016. “Why Means Matter: A Critical Analysis of the Compatibility of Mood-Enhancement with Self-Respect.” *Rerum Causae*, 8(2): 1–17.

Scripko, P D. 2010. “Enhancement’s Place in Medicine.” *Journal of Medical Ethics*, 36(5): 293–296.

Silvers, A. 1998. “A Fatal Attraction to Normalising: Treating Disabilities as Deviations from ‘Species-Typical’ Functioning.” In *Enhancing Human Traits: Ethical and Social Implications*, edited by E. Parens. 95–123. Georgetown University Press.

Smart, J. J. C. and Williams, B. 1973. *Utilitarianism: For and Against*. Cambridge University Press.

Stein, D. J. 2005. “Cosmetic Psychopharmacology of Anxiety: Bioethical Considerations.” *Current Psychiatry Reports*, 7(4): 237–238.

Stroop, R. 2016. *Rethinking Well-Being in Biomedical Ethics*. Westfälische Wilhelms-Universität.

Svenaeus, F. 2009. “The Ethics of Self-Change: Becoming Oneself by Way of Antidepressants or Psychotherapy?” *Medical Health Care and Philosophy*, 12:169–178.

Synofzik, M. 2009. “Ethically Justified, Clinically Applicable Criteria for Physician Decision-Making in Psychopharmacological Enhancement.” *Neuroethics*, 2(2): 89–102.

Szegedi, A., R. Kohnen, A. Dienel, and M. Kieser. 2005. "Acute Treatment of Moderate to Severe Depression with Hypericum Extract WS 5570 (St John's wort): Randomised Controlled Double Blind Non-Inferiority Trial Versus Paroxetine." *BMJ*, 330(7490): 503.

Taylor, T. E. 2015. “Towards Consensus on Well-Being.” In *Well-being in Contemporary Society*, edited by J. H. Søraker, J. W. V. Rijt, J. der Boer, P. H. de Wong and P. Brey. 1–16. Springer International Publishing.

Tellegen, A., Lykken, D., Bouchard, T. J., Wilcox, K. J., Segal, N. and Rich, S. 1988. “Personality Similarity in Twins Reared Apart and Together.” J*ournal of Personality and Social Psychology*, 54: 1031–1039.

Tse, W. S. and Bond, A. J. 2002. “Serotonergic Intervention Affects Both Social Dominance and Affiliative Behavior.” *Psychopharmacology*, 161: 324–30.

Varelius, J. 2006. “Voluntary Euthanasia, Physician-Assisted Suicide.” *Journal of Medicine and Philosophy*, 32: 121–137.

Veatch, R. M. 2001. “The Impossibility of a Morality Internal to Medicine.” *The Journal of Medicine and Philosophy*, 26(6): 621–642.

Walters, L. and Palmer, J. 1997. *The Ethics of Human Gene Therapy*. New York: Oxford University Press.

Wagner, N., Robinson, J. and Wiebking, C. 2015. "The Ethics of Neuroenhancement: Smart Drugs, Competition and Society." *International Journal of Technoethics*, 6(1): 1–20.

Wertz, D.C. and Fletcher J. C. 1988. “Attitudes of Genetic Counsellors: A Multinational Survey.” *American Journal of Human Genetics*, 42(4): 592–600.

World Health Organization. Preamble to the Constitution of the World Health Organization as adopted by the International Health Conference, New York, 19–22 June, 1946.

Zohny, H. 2014. “A Defence of the Welfarist Account of Enhancement.” *Performance Enhancement and Health*, 3: 123–129.

Zohny, H. 2016. “Enhancement, Disability and the Riddle of the Relevant Circumstances.” *Journal of Medical Ethics*, 0:1–6.